Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.06.95 : ISO 4113

Combination No. : 0 400 866 184

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV425...900A4C2213

: -4R

Governer no.

: 0 420 233 325

Cust. part No. : 3921160

Customer-spec. information Customer : CDC

Motor : 6 CT 8.3 Power KW : 154.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

: 1 417 413 047 Overflow valve

1.5 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter :

x inside diameter :

2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : ← 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 10.00 Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 830

Rack travel in mm: 13.45

Tolerance mm : +- 0.05	+ Rated speed rpm : 930 + Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 139.5	+ rack travel mm : 4.00 + Rated speed rpm : 975
cm3/1000 strokes : +- 1.0	Tolerance 1/min : + 5
Check tolerance cm3/1000s. : + 3.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1030
Spreed cm3/1000 strokes : 4.0	+ rack travel mm : 4.00 + Rated speed rpm : 975
Check tolerance cm3/1000s. : 6.5	+
Rack travel in mm : 5.60 Tolerance mm : + 0.10	LOW IDLE
(B) SETTING OF INJECTION PUMP	control lever position degree : 76.0 tolerance degree : + 4.0
WITH GOVERNOR	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	Rated speed rpm : 425 rack travel mm : 4.70
Rated speed rpm : 800	Testing:
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 425 rack travel mm : 5.60 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 830 Aneroid pressure	CRT mm min. :> 19.00
hPa : - Del. quantity cm3/1000 strokes : 139.5	TORQUE CONTROL
cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	Rated speed rpm : 830 rack travel mm : 13.45 Tolerance mm : + 0.05
Spreed cm3/1000 strokes : 4.0	Total area man
Check tolerance cm3/1000s. : 6.5	‡
CONTROL LEVER	# BREAKAWAY
control lever position degree : 102.0 tolerance degree : +- 4.0	Rack travel in mm: 12.40 Rated speed rpm: 930 Tolerance 1/min: + 5
RATED SPEED	
rack travel mm : 12.40	STARTING FUEL DELIVERY

A02

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 145.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.11.96 : ISO 4113

Combination No. : 0 400 866 188

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV425...750A4C2213

: -5R

Governer no.

: 0 420 233 326

Cust. part No. : 3921152

Customer-spec. information Customer : CDC Motor

Power KW

: 6CT- 8.3 L : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

: +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 017 assembly

Opening pressure

208.5 bar

: **←** 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Del. quantity

cm3/1000 strokes : 143.5

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 900
Spreed	- - rack travel mm : 4.00 - Rated speed rpm : 845
Check tolerance cm3/1000s. : 6.5	
Rack travel in mm : 6.10 Tolerance mm : + 0.10	LOW IDLE control lever position degree : 80.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	 tolerance degree : +- 4.0 Setting point w/out bumper spring
1	•
GUIDE SLEEVE POSITION	- Rated speed rpm : 425 - rack travel mm : 5.60 -
Rated speed rpm : 800	- Testing:
Rack travel in mm : 0.50 Tolerance mm : + 0.20	- Rated speed rpm : 425 - rack travel mm : 6.10 - Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100
Rated speed rpm : 750 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 143.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 3.0	- CRT mm min. : > 19.00
Spreed + 4.0 + 4.0	- BREAKAWAY
Check tolerance cm3/1000s. : 6.5	Rack travel in mm : 13.00 Rated speed rpm : 800 Tolerance 1/min : +- 5
CONTROL LEVER	
control lever position degree : 90.0 tolerance degree : + 4.0	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00
RATED SPEED	Tolerance mm : +- 1.00 Del. quantity
rack travel mm : 13.00 Rated speed rpm : 800 Tolerance 1/min : + 5	- cm3/1000 strokes : 145.0 - cm3/1000 strokes : + 10.0 - Check tolerance - cm3/1000s. : + 15.0
rack travel mm : 4.00 Rated speed rpm : 840 Tolerance 1/min : +- 5	· · · · · · · · · · · · · · · · · · ·

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.03.96 : ISO 4113

Combination No. : 0 400 866 190

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1250A0C2216

: -5R

Governer no.

: 0 420 233 327

Cust. part No. : 3921144

Customer-spec. information

Customer : CDC

: 6 CT 8.3 ltr Motor

Power KW

: 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter:

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance *NW

: +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00 Tolerance

Check

: +- 0.50

tolerance °NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.05

A07

Tolerance mm	: ← 0.05	- Rated speed rpm : 1310 - Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes	: 119.5	rack travel mm : 4.00
cm3/1000 strokes	: + 1.0	Rated speed rpm : 1390 Tolerance 1/min : +- 5
Check tolerance cm3/1000s.	: +- 3.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1450
Spreed cm3/1000 strokes	: 4.0	rack travel mm : 4.00 Rated speed rpm : 1395
Check tolerance cm3/1000s.	: 6.5	- Nated opera (pin 1979
Rack travel in mn Tolerance mm		- LOW IDLE
(8) SETTING OF IN WITH GOVERNOR	NECTION PUMP	control lever position degree : 80.0 tolerance degree : +- 4.0
WITH GOVERNOR	<u> </u>	Setting point w/out bumper spring
GUIDE SLEEVE POSI	TION	Rated speed rpm : 400 rack travel mm : 5.00
Rated speed rpm	: 800	Testing:
Rack travel in mm Tolerance mm		Rated speed rpm : 400 rack travel mm : 5.50 Tolerance mm : +- 0.10
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm Aneroid pressure hPa	: 1250	CRT mm min. : > 19.00
Del. quantity cm3/1000 strokes	: 119.5	TORQUE CONTROL
cm3/1000 strokes Check tolerance cm3/1000s.	·	Rated speed rpm : 1250 rack travel mm : 12.05 Tolerance mm : + 0.05
Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 6.5	Rated speed rpm : 750 rack travel mm : 12.40 Tolerance mm : + 0.10
	‡	
CONTROL LEVER	<u> </u>	
control lever position degree	: 106.0	FUEL DELIVERY CHARACTERISTICS
tolerance degree		Aneroid pressure hPa : -
RATED SPEED	# 25	Rated speed rpm : 750 Del. quantity
rack travel mm	: 11.00 +	cm3/1000 strokes : 127.0

80A

750 12.40 RISTICS 750 127.0

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1310
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 10.0 Cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.95 Test oil : ISO 4113

Combination No. : 0 400 866 204

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A0C2190

: -76R

Governer no. : 0 420 233 315

Cust. part No. : 3921163

Customer-spec. information

Customer : CDC

: 6 CT 8.3ltr Motor 173.0

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

tolerance mm

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05 Check

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: + 0.10

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 11.00 : **←** 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.75

Tolerance mm	: +- 0.05	RATED SPEED
Del. quantity cm3/1000 strokes	: 99.0	rack travel mm : 9.70
cm3/1000 strokes	: + 1.0	Rated speed rpm : 1175 Tolerance 1/min : + 5
Check tolerance cm3/1000s.	: + 3.0	rack travel mm : 4.00 Rated speed rpm : 1240 Tolerance 1/min : +- 5
Spreed cm3/1000 strokes	: 4.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
Check tolerance cm3/1000s.	: 6.5	Rated speed rpm : 1300
Rack travel in mm : Tolerance mm		rack travel mm : 4.00 Rated speed rpm : 1245
(B) SETTING OF INJE	ECTION PUMP	LOW IDLE
WITH GOVERNOR		control lever position degree : 79.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSIT	ION	-
Rated speed rpm	: 800	Setting point w/out bumper spring
Rack travel in mm : Tolerance mm		Rated speed rpm : 425 rack travel mm : 5.20
governor spring	‡	Testing:
pre-tension click setting x	: 2.50	Rated speed rpm : 425 rack travel mm : 5.70 Tolerance mm : +- 0.10
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm : 100
Aneroid pressure	: 1100	CRT mm min. : > 19.00
hPa : Del. quantity	; - ‡	TORQUE CONTROL
cm3/1000 strokes :		
	· + 1.0 ±	Rated speed rpm : 1100 rack travel mm : 10.75
Check tolerance cm3/1000s.	: + 3.0	Tolerance mm : + 0.05
Spreed	+	
cm3/1000 strokes :	+ 4.0	
Check tolerance cm3/1000s. :	6.5	
	‡	
CONTROL LEVER	<u> </u>	BREAKAWAY
control lever position degree : tolerance degree :	97.0	Rack travel in mm : 9.70 Rated speed rpm : 1175 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.03.96 Edition Test oil : ISO 4113

Combination No. : 0 400 866 208

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A0C2190

: -80R

Governer no. : 0 420 233 319

Cust. part No. : 3921140

Customer-spec. information

Customer : CDC : 6 CT 8.3 Motor

Power KW : 156.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : $^{\circ}$ C :

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00

: + 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35

Rated speed rpm : 1170
Tolerance 1/min : +- 5 Tolerance mm : +- 0.05 Del. quantity rack travel mm : 4.00
Rated speed rpm : 1220
Tolerance 1/min : +- 5 cm3/1000 strokes : 125.5 cm3/1000 strokes : +- 1.0 rack travel mm : 0.85 Tolerance mm : + 0.55 Check tolerance cm3/1000s. : **←** 3.0 Rated speed rpm : 1300 Spreed cm3/1000 strokes : 4.0 rack travel mm : 4.00 Rated speed rpm : 1230 Check tolerance cm3/1000s. 6.5 LOW IDLE Rack travel in mm: 5.30 Tolerance mm : +- 0.10 control lever position degree : 75.0 (B) SETTING OF INJECTION PUMP tolerance degree : + 4.0 WITH GOVERNOR Setting point w/out bumper spring Rated speed rpm : 425 GUIDE SLEEVE POSITION rack travel mm 4.80 Testing: Rated speed rpm : 800 rack travel mm : 5.50 cmm : +- 0.10 Rated speed rpm : 425 Rack travel in mm: 0.50 Tolerance mm : +- 0.20 Rated speed rpm : 100 FULL LOAD DELIVERY AT FULL LOAD STOP CRT mm min. : > 19.00Rated speed rpm : 1100 Aneroid pressure hPa TORQUE CONTROL Del. quantity cm3/1000 strokes : 125.5 Rated speed rpm : 1100 cm3/1000 strokes : + 1.0 rack travel mm : 12.35 Tolerance mm : +- 0.05 Check tolerance cm3/1000s. : +--3.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5 BREAKAWAY CONTROL LEVER Rack travel in mm : 11.30 control lever position degree : 94.0 Rated speed rpm : 1170 Tolerance 1/min : + 5 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.30 STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 145.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.95 Test oil : ISO 4113

Combination No. : 0 400 866 212

Injection pump

Pump designation : PES6A100D320/3RS2691

: -4

EP type number : 9 410 230 030

Governor

Governer design. : RSV450...1100A0C2190

: -82R

Governer no. : 0 420 233 321

Cust. part No. : 3931268

Customer—spec. information
Customer : CDC
Motor : 6CT830
Power KW : 117.1

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.65

A16

Tolerance mm : +- 0.05	
+	
Del. quantity cm3/1000 strokes : 96.5	CONTROL LEVER
cms/1000 strokes: 96.3	control lever
cm3/1000 strokes : +- 1.0	position degree : 104.0
- 1.0	tolerance degree : + 6.0
Check tolerance	
cm3/1000s. : +- 3.0	RATED SPEED
+	
Spreed	rack travel mm : 9.60
cm3/1000 strokes : 4.0	Rated speed rpm : 1160
Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : 6.5	rack travel mm : 4.00
tms/ (0003:	Rated speed rpm : 1235
Rated speed rpm : 450	Tolerance 1/min : +- 5
+	
+	rack travel mm : 0.85
Rack travel in mm: 5.60	Tolerance mm : +- 0.55
Tolerance mm : + 0.10	Rated speed rpm : 1325
Del. quantity + cm3/1000 strokes : 16.5 +	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0 +	Rated speed rpm : 1245
Check tolerance	Nated Speed (pill : 1245
cm3/1000s. : + 4.5	
Spreed	
cm3/1000 strokes : 6.0	LOW IDLE
Check tolerance +	
cm3/1000s. : 8.0	
†	control lever
(B) SETTING OF INJECTION PUMP	position degree : 84.0 tolerance degree : +- 6.0
WITH GOVERNOR	toterance degree 0.0
WITH GOVERNOR	Setting point w/out bumper spring
}	
	Rated speed rpm : 450
GUIDE SLEEVE POSITION +	rack travel mm : 5.10
T	→ -1.*
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50	Rated speed rpm : 450
Tolerance mm : + 0.20	rack travel mm : 5.60
1000.00.00	Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	
Rated speed rpm : 1100	CRT man min. : > 19.00
Aneroid pressure + + + + + + + + + + + + + + + + + + +	
Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 96.5	TOTAGE GOTTINGE
cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1100
Check tolerance +	rack travel mm : 10.65
cm3/1000s. : +- 3.0 +	Tolerance mm : +- 0.05
Spreed	0-4-dd 300
cm3/1000 strokes : 4.0	Rated speed rpm : 750
Check tolerance + cm3/1000s. : 6.5	rack travel mm : 11.10 Tolerance mm : +- 0.10
cm3/1000s. : 6.5 +	ioteranie min . T U. IU
→	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

750 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 94.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

9.60 Rack travel in mm: Rated speed rpm : 1160 Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm 20.00 rack travel mm : : +- 1.00 Tolerance mm Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : + 10.0

Check tolerance

: +- 15.0 cm3/1000s.

LOW IDLE

450 Rated speed rpm Del. quantity cm3/1000 strokes : 16.5 cm3/1000 strokes : +-2.0 Check tolerance 4.5 cm3/1000s.

Spreed

6.0 cm3/1000 strokes :

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.09.95 Test oil : ISO 4113

Combination No. : 0 400 876 394

Injection pump

Pump designation : PES6A100D410RS2754 EP type number : 0 410 806 002

Governor

Governer design. : RSV425...1100A0C2234

: -2L

Governer no. : 0 420 232 569

Cust. part No. : RE51026

Customer-spec. information Customer : DEERE : 6076TRW04 Motor Power KW : 122.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 13.50 Tolerance : \leftarrow 0.50

Check

: **←** 0.75 tolerance "NW

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference * CS : 7.00

BASIC SETTING

Rated speed rpm : 1100	Spreed cm3/1000 strokes : 4.0 Check tolerance
Rack travel in mm: 10.65 Tolerance mm: +- 0.05	cm3/1000s. : 6.5
Del. quantity cm3/1000 strokes : 101.5	CONTROL LEVER control lever
cm3/1000 strokes : +- 1.0	position degree : 95.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : +- 3.0	RATED SPEED
Spreed cm3/1000 strokes : 4.0	rack travel mm : 9.60 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 6.5	rack travel mm : 4.00 Rated speed rpm : 1205
Rated speed rpm : 425	Tolerance 1/min : +- 5
+	rack travel mm : 0.85
Rack travel in mm: 5.60 +	Tolerance mm : + 0.55
Tolerance mm : + 0.10 +	Rated speed rpm : 1300
Del. quantity + cm3/1000 strokes : 28.0 +	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0 +	Rated speed rpm : 1205
Check tolerance	Nated Speed (pin : 1205
cm3/1000s. : + 4.0	
Spreed	
cm3/1000 strokes : 6.0	LOW IDLE
Check tolerance +	
cm3/1000s. : 8.0 +	
+	control lever
+	position degree : 71.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : +- 4.0
‡	Setting point w/out bumper spring
+	Rated speed rpm : 425
GUIDE SLEEVE POSITION +	rack travel mm : 5.10
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.50	Rated speed rpm : 425
Tolerance mm : + 0.20 +	rack travel mm : 5.60
+	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100 Aneroid pressure	CRT mm min. : > 19.00
hPa : -	
Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 101.5	
cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1100
Check tolerance +	rack travel mm : 10.65
cm3/1000s. : + 3.0 +	Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.00 Tolerance mm : +- 0.20 START CUT-OUT 100 Rated speed rpm : > Check speed 1/min 80 : > FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 700 Rated speed rpm : Del. quantity cm3/1000 strokes : 126.5 cm3/1000 strokes : +- 1.5Check tolerance cm3/1000s. : + 4.0 **BREAKAWAY** Rack travel in mm: 9.60 Rated speed rpm : 1150
Tolerance 1/min : + 5 STARTING FUEL DELIVERY 100 Rated speed rpm : Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 425 Del. quantity 28.0 cm3/1000 strokes : cm3/1000 strokes : +-2.0 Check tolerance : +cm3/1000S.4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance

8.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.03.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 876 395

Injection pump

Pump designation : PES6A100D410RS2676 EP type number : 9 410 230 023

Governor

Governer design. : RSV425...1100A2C2161

: -1L

: 9 420 234 133 Governer no.

Cust. part No. : RE23746

Customer-spec. information : DEERE Customer Motor : 6466T : 120.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +-

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 2.50 : + 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : 15.50 Tolerance : + 0.50

Check

: +- 0.75 tolerance *NW

: 1 Barrel no.

Beginning of delivery differende

Difference * CS : 8.50

BASIC SETTING

Pated speed rpm : 1100

A22

Rack travel in mm Tolerance mm	9.40 : +- 0.05	
Del. quantity cm3/1000 strokes	: 99.5	
cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000s.	: + 3.0	
Spreed cm3/1000 strokes	: 4.0	
Check tolerance cm3/1000s.	: 6.5	
Rated speed rpm	: 425	
Rack travel in mm Tolerance mm Del. quantity	: 5.40 : + 0.10	
cm3/1000 strokes cm3/1000 strokes	: 22.5 : ← 2.0	
Check tolerance cm3/1000s.	: + 4.5	
Spreed cm3/1000 strokes Check tolerance	: 6.0	
cm3/1000s.	: 8.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		
GUIDE SLEEVE POSI	TION	
Rated speed rpm	: 800	
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	
Rated speed rpm Aneroid pressure	: 1100	
hPa Del. quantity	: 700	
cm3/1000 strokes cm3/1000 strokes	: 99.5 : +- 1.0	
Check tolerance cm3/1000s.	: + 3.0	
Spreed cm3/1000 strokes	: 4.0	

Check tolerance cm3/1000s,	: 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 103.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 8.40 : 1150 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1210 : +- 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1300
rack travel mm Rated speed rpm	: 4.00 : 1210
LOW IDLE	
control lever position degree tolerance degree	
control lever	: +- 4.0
control lever position degree tolerance degree	: +- 4.0 out bumper spring : 425
control lever position degree tolerance degree Setting point w/o Rated speed rpm	: +- 4.0 out bumper spring : 425
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: +- 4.0 out bumper spring : 425 : 4.90 : 425
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm	: + 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : + 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : + 0.10
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: +- 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : +- 0.10 : 100
control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: +- 4.0 out bumper spring : 425 : 4.90 : 425 : 5.40 : +- 0.10 : 100 : > 19.00

rack travel mm Tolerance mm	: 10.80 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 700
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.30 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 175 : 10.35 : ← 0.05
Pressure hPa rack travel mm Tolerance mm	: 80 : 9.60 : +- 0.20
START CUT-OUT	
Rated speed rpm	: > 100
Check speed 1/min	: > 80
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 700 : 750 : 117.5 : + 1.5 : + 3.5
Aneroid pressure hPa Rated speed rpm	: - : 500

BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1150
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 200.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 425
Del. quantity
cm3/1000 strokes : 22.5
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.10.95 Test oil : ISO 4113

Combination No. : 0 400 876 424

Injection pump

Pump designation : PES6A1000410RS2762

: -1

EP type number : 0 410 806 008

Governor

Governer design. : RSV425...1050A2C2277

: 0 420 232 601 Governer no.

Cust. part No. : RE62035

Customer-spec. information

Customer : DEERE

: 6076TRW-30 Motor

Power KW : 129.5

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : 13.50 Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.20

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 106.5	Check tolerance cm3/1000s.
cm3/1000 strokes	; + 1.0	
Check tolerance	: + 3.0	CONTROL LEVER
Spreed cm3/1000 strokes		control lever position degree tolerance degree
Check tolerance	: 6.5	RATED SPEED
Rated speed rpm	+	rack travel mm Rated speed rpm Tolerance 1/min
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: + 0.10 : 26.0 : + 2.0 : + 4.0	rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm rack travel mm Rated speed rpm
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	LOW IDLE
GUIDE SLEEVE POSIT	ION	position degree tolerance degree
Rated speed rpm	: 800	Setting point w/o
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	Rated speed rpm rack travel mm
governor spring pre-tension	Ī	Testing:
click setting x		Rated speed rpm rack travel mm Tolerance mm
	AT FULL LOAD STOP	Rated speed rpm
Aneroid pressure hPa	: 1050	CRT mm min.
Del. quantity cm3/1000 strokes	: 106.5 : + 1.0	TORQUE CONTROL
CMS/7LLL STPOKES		
cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 3.0	Rated speed rpm rack travel mm Tolerance mm

cm3/1000s.	: 6.5
CONTROL LEVER	
control lever position degree tolerance degree	: 94.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 10.15 : 1100 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 1170
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1300
rack travel mm Rated speed rpm	: 4.00 : 1170
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 425 : 5.70 : + 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.20 : + 0.05
Rated speed rpm	: 750

rack travel mm : 12.85 : +- 0.10 Tolerance mm START CUT-OUT Rated speed rpm : > 100 Check speed 1/min ; > 80 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 133.0 cm3/1000 strokes : \leftarrow 2.0 Check tolerance cm3/1000s. : +- 4.0 **BREAKAWAY** Rack travel in mm: 10.15 Rated speed rpm : 1100 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : + 10.0Check tolerance cm3/1000s.: **←** 15.0 LOW IDLE 425 Rated speed rpm : Del. quantity cm3/1000 strokes : 26.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +-4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 400 876 429

Injection pump

Pump designation : PES6A95D32OLS2853 EP type number : 0 410 896 891

Governor

Governer design. : RSV415...1100A5C2276

: -2R

Governer no. : 0 420 233 347

Cust. part No. : 1824775091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-466
Power KW : 119.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 058

Inlet press. bar : 2.8

Test nozzle holde

assembly : 1 688 901 110

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.50
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 87.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

A28

Check tolerance cm3/1000s. : 6.0 Rack travel in mm: 5.60 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm: 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x: 3.50 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure : 1200 hPa Del. quantity cm3/1000 strokes : 87.5 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 98.0 tolerance degree : +- 6.0 RATED SPEED rack travel mm : 11.30 Rated speed rpm : 1150 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1210 Tolerance 1/min : + 5

rack travel mm : 4.00 Rated speed rpm : 1215 LOW IDLE control lever position degree : 72.0 tolerance degree : +- 6.0 Testing: Rated speed rpm : 415 rack travel mm : 5.60 : +- 0.10 Tolerance mm Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 12.35
Tolerance mm : +- 0.05 Rated speed rpm : 800 rack travel mm : 14.00 Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.00
Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 330 rack travel mm : 13.50 Tolerance mm : +- 0.20 Pressure hPa : 200 rack travel mm : 12.75 Tolerance mm : +- 0.05

Rated speed rpm : 1275

rack travel mm : 0.85 Tolerance mm : + 0.55

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 108.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 96.0 cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. :+ 43

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1150
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : +- 0.50

Del. quantity

cm3/1000 strokes : 150.5 cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 15.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 402 046 857

Injection pump

Pump designation : PES6P110A320LS3330 EP type number : 0 412 016 745

Governor

Governer design. : RQV350...1250PA1126K

Governer no. : 0 421 815 383

Cust. part No. : 1823106091

Customer-spec. information Customer : NAVISTAR : DT-408 Motor : 142.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

B03

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Check

tolerance mm : +- 0.10

Rack travel in mm: 15.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barret no. : 1

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm: 12.95 Tolerance mm: +- 0.05

Del. quantity cm3/1000 strokes : 128.5

cm3/1000 strokes : +- 1.0 +	
<u> </u>	rack travel mm : 4.00
Sheck tolerance	Rated speed rpm : 1475
cm3/1000s. : + 3.0	Tolerance 1/min : + 5
1	
Spreed	rack travel mm : 0.50
cm3/1000 strokes : 8.0	Tolerance mm : +- 0.50
	Rated speed rpm : 1600
Check tolerance	Water open i più
cm3/1000s. : 12.0	
-	
Rated speed rpm : 325	LOW IDLE
1.4.54 56554 1.511	
↓	
Ruck travel in Am : 7.70	control lever
Tolerance mm : + C.10	position degree : 79.0
Del. quantity	tolerance degree : +- 6.0
cm3/1000 strokes : 28.0	toter arise degree
cm3/1000 strokes : + 2.0 +	Testing:
Check tolerance	, 550 ting.
cm3/1000s. : + 4.5	Rated speed rpm : 325
Spreed +	rack travel mm : 7.70
cm3/1000 strokes : 4.0	Tolerance mm : +- 0.10
Check tolerance	roterance and
cm3/1000s. : 6.5	Rated speed rpm : 275
	Nated speed (piii . Lt)
m I	CRT mm min. :> 8.50
(B) SETTING OF INJECTION PUMP	(K) (M) (M) (1)
WITH GOVERNOR	Rated speed rpm : 405
ATTH GOVERNOR	Nated speed (pill : 40)
Ţ	
<u>.l</u> .	
<u> </u>	TODOUE CONTROL
FILL LOAD DELTHERY AT ELLE LOAD STOR	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	
+	Rated speed rpm : 850
Rated speed rpm : 850	Rated speed rpm : 850 rack travel mm : 12.95
Rated speed rpm : 850 Aneroid pressure	Rated speed rpm : 850
Rated speed rpm : 850 Aneroid pressure hPa : 1200	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : ± 1.0 Check tolerance cm3/1000s. : ± 3.0 Spreed cm3/1000 strokes : 8.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : ± 1.0 Check tolerance cm3/1000s. : ± 3.0 Spreed cm3/1000 strokes : 8.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 13.70 Tolerance mm : 700 rack travel mm : 12.60 Tolerance mm : 12.60 Tolerance mm : 12.00 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : ± 1.0 Check tolerance cm3/1000s. : ± 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : ± 6.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : ± 1.0 Check tolerance cm3/1000s. : ± 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : ± 6.0 RATED SPEED	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : 8.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80 Rated speed rpm : 1310	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200 rack travel mm : 13.80
Rated speed rpm : 850 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 128.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 CONTROL LEVER control lever position degree : 121.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 12.80	Rated speed rpm : 850 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 1150 rack travel mm : 13.70 Tolerance mm : + 0.10 Rated speed rpm : 700 rack travel mm : 12.60 Tolerance mm : + 0.20 Rated speed rpm : 1250 rack travel mm : 13.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 1250 Pressure hPa : 1200

B04

MEASUREMENT

Pressure hPa : Rated speed rpm : 1250
rack travel mm : 11.20
Tolerance mm : + 0.20

Rated speed rpm : 1250

Pressure hPa : 530 rack travel mm : 13.50 Tolerance mm : + 0.20

Pressure hPa : 250 rack travel mm : 12.10 Tolerance ran : + 0.05

START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 280

Check

speed 1/min : > 80 Check speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 1150

Del. quantity

cm3/1000 strokes : 142.0 cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : Rated speed rpm : 1250

Del. quantity
cm3/1000 strokes : 93.5
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.80 Rated speed rpm : 1310

B05

Tolerance 1/min : +- 15

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : \leftarrow 1.00

Del. quantity

cm3/1000 strokes : 140.0 cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 325
Del. quantity

cm3/1000 strokes : 28.0 cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000S. : +- 4.5 Spreed

cm3/1000 strokes : 4.0 Check tolerance

cm3/1000s. : 6.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08,11.96 : ISO 4113

Combination No. : 0 402 066 710

Injection pump

Pump designation : PES6P110A120RS3357

EP type number : 0 412 016 754

Governor

Governer design. : RSV400...900P4A633

Governer no. : 0 421 833 541

Cust. part No. : 3931255

Customer-spec. information

Customer : CDC

: 6CTA ELITE Motor

: 207.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300 : +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 7.75

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.35

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 213.0 cm3/1000 strokes : +- 1.0	+ Check tolerance cm3/1000s. : 7.5
CMS/1000 Strokes : +- 1.0	I
Check tolerance cm3/1000s. : +- 3.0	CONTROL LEVER
Spreed cm3/1000 strokes : 4.0	tolerance degree : 102.0
Check tolerance cm3/1000S. : 7.5	RATED SPEED
Rated speed rpm : 400	rack travel mm : 12.30 Rated speed rpm : 960 Tolerance 1/min : + 5
Rack travel in mm : 6.20 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 24.0	rack travel mm : 6.40 Rated speed rpm : 990 Tolerance 1/min : +- 5
<pre>cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5</pre>	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1100
Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0	rack travel mm : 6.40 Rated speed rpm : 990
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	T CON IDEC
	control lever position degree : 77.0 tolerance degree : + 4.0
WITH GOVERNOR	control lever position degree : 77.0
GUIDE SLEEVE POSITION	control lever position degree : 77.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20
WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20 Tolerance mm : + 0.20
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 213.0	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20 Tolerance mm : + 0.20 Rated speed rpm : 100
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 213.0 cm3/1000 strokes : + 1.0	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : < 19.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 213.0	control lever position degree : 77.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.70 Testing: Rated speed rpm : 400 rack travel mm : 6.20 Tolerance mm : + 0.20 Rated speed rpm : 100 CRT mm min. : < 19.00

BREAKAWAY

Rack travel in mm: 12.30 Rated speed rpm : 960
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00
Tolerance mm : + 0.50

Del. quantity cm3/1000 strokes : 165.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : ← 25.0

LOW IDLE

Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 24.0 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : +- 4.5

Spreed

cm3/1000 strokes : 6.0

Check tolerance

: 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 756

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV400...1200P5A587

Governer no. : 0 421 833 446

Cust. part No. : 1820269091

Customer-spec. information Customer : NAVISTAR : DTA-466 Motor Power KW : 204.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar : Tolerance bar : + 1.0

3.00 Prestroke mm : +- 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm : 10.50

: +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 14.65 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 176.5

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s. 3.0

Spreed

cm3/1000 strokes :

8.0

Check tolerance cm3/1000s.	: 12.0
Rack travel in mm Tolerance mm	: 5.20 : + 0.10
(B) SETTING OF INJ WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSIT	rion
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: 0.50 : +- 0.20
governor spring pre-tension click setting x	: 3.50
FULL LOAD DELIVERY	AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 1500
CONTROL LEVER	
control lever position degree tolerance degree	: 55.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 13.60 : 1245 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1315 : + 5
rack travel mm	: 0.85 : +- 0.55

Rated speed rpm	: 1400
rack travel mm Rated speed rpm	: 4.00 : 1320
LOW IDLE	
control lever position degree tolerance degree	: 25.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 400 : 5.20 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 14.65 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 1500 : 14.65 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.40 : + 0.20
Rated speed rpm	: 1200
Pressure hPa	: 650 : 13.20
rack travel mm Tolerance mm	: +- 0.20

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 72.0 cm3/1000 strokes : \leftarrow 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 13.60 Rated speed rpm : 1245
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : rack travel mm : 100 20.50 Tolerance mm : +- 0.50

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 757

Injection pump

Pump designation : PES6P100A320LS3319 EP type number : 0 412 006 707

Governor

Governer design. : RSV350...1300P5A565

Governer no. : 0 421 833 414

Cust. part No. : 1820268091

Customer-spec. information Customer : NAVISTAR : DT-408 Motor : 141.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8

Overflow quantity

min. L/h : 260 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm 3.00 ÷ + 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.55 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 138.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Rack travel in mm Tolerance mm	: 5.60 : + 0.10
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: 0.50 : + 0.20
governor spring pre-tension click setting x	: 3.75
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa	: 1300 : 1200
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 138.5 : + 1.0
cm3/1000s. Spreed	: +- 3.0
cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
CONTROL LEVER	
control lever position degree tolerance degree	: 111.0 : +- 6.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 11.50 : 1345 : +- 5
rack travel mm Rated speed rpm	: 4.00 : 1405

Tolerance 1/min	: +- 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1500
rack travel mm Rated speed rpm	: 4.00 : 1410
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 6.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.60 : ← 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 12.55 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300 : 1200 : 12.55 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.30 : +- 0.20
Rated speed rpm	: 1300
Pressure hPa rack travel mm Tolerance mm	: 650 : 11.50 : + 0.20

Pressure hPa : 290 rack travel mm : 9.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

nPa : -Rated speed rpm : 400 Del. quantity cm3/1000 strokes :

74.5 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : ← 4.0

BREAKAWAY

Rack travel in mm : 11.50 Rated speed rpm : 1345 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 760

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A577

Governer no. : 0 421 833 433

Cust. part No. : 1818694091

Customer-spec. information Customer : NAVISTAR : DT-531 Motor : 145.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 015

Ourside diameter : 6.0

x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : ← 1.0

Prestroke mm 3.00 : +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 : + 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30 Check

: +- 0.75 tolerance °NW

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.75 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 138.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000S. : **←** 3.0

Spreed

cm3/1000 strokes : 8.0

B15

Check tolerance		T-1 1/	
cm3/1000s.	: 12.0	+ Tolerance 1/min	: +- 5
		+ rack travel mm	: 0.85
		+ Tolerance mm	: +- 0.55
Rack travel in mo	n: 5.30	+ Rated speed rpm	
Tolerance mm	: +- 0.10	1	, ,,,,,
rocci arice nan		rack travel mm	: 4.00
		- Rated speed rpm	
(B) SETTING OF IN	LIECTION DUMD	T Nated Speed (pill	. 1200
WITH GOVERNOR	OFCITON LOUI	I	
WITH GOVERNOR		I	
		LOW IDLE	
		+	
GUIDE SLEEVE POST	TION	+	
		+ control lever	
Rated speed rpm	: 800	+ position degree	
		+ tolerance degree	: +- 6.0
Rack travel in mm		+	
Tolerance mm	: +- 0.20	+ control lever	
		<pre>position degree</pre>	: 21.0
governor spring		+ tolerance degree	
pre-tension		+	-
click setting x	: 4.50	+ Testing:	
•		+	
		+ Rated speed rpm	: 415
FULL LOAD DELIVER	RY AT FULL LOAD STOP	+ rack travel mm	: 5.30
		+ Tolerance mm	: + 0.10
Rated speed rpm	: 1100	+	
Aneroid pressure		+ Rated speed rpm	: 100
hPa	: 1200	-	
Del. quantity		+ CRT mm min.	: > 19.00
cm3/1000 strokes	: 138.0	1	.,,,,,
cm3/1000 strokes			
Check tolerance		TORQUE CONTROL	
cm3/1000s.	: +- 3.0	T TONGOE CONTINOE	
Spreed	3.3	+ Rated speed rpm	: 1100
cm3/1000 strokes	: 8.0		
Check tolerance	. 0.0	rack travel mm Tolerance mm	: + 0.05
cm3/1000s.	: 12.0	T local direction	. ' 0.05
CMS/ TOCOS.	. 12.0	Ι	
		ANEROID/ALTITUDE	
		+ COMPENSATOR TEST	
CONTROL LEVER		1	
		+	
control lever	<u> </u>	+ SETTING	
position degree	. [2]	+	
		t .	
		+ Rated speed rpm	
tolerance degree		+ Pressure hPa	: 1200
tolerance degree control lever	: +- 4.0	Pressure hPa rack travel mm	: 1200 : 12.75
tolerance degree control lever	: +- 4.0	+ Pressure hPa	: 1200
tolerance degree control lever position degree	: +- 4.0 : 102.0	Pressure hPa rack travel mm	: 1200 : 12.75
tolerance degree control lever position degree	: +- 4.0 : 102.0	Pressure hPa rack travel mm	: 1200 : 12.75
tolerance degree control lever position degree tolerance degree	: +- 4.0 : 102.0	Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 1200 : 12.75
tolerance degree control lever position degree tolerance degree RATED SPEED	: +- 4.0 : 102.0 : +- 6.0	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa	: 1200 : 12.75 : + 0.05
tolerance degree control lever position degree tolerance degree RATED SPEED rack travel mm	: + 4.0 : 102.0 : + 6.0 : 11.40	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: 1200 : 12.75 : + 0.05
tolerance degree control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm	: + 4.0 : 102.0 : + 6.0 : 11.40 : 1150	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 1200 : 12.75 : + 0.05 : - : 500 : 8.60
tolerance degree control lever position degree	: + 4.0 : 102.0 : + 6.0 : 11.40 : 1150	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa	: 1200 : 12.75 : + 0.05
tolerance degree control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: + 4.0 : 102.0 : + 6.0 : 11.40 : 1150 : + 5	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1200 : 12.75 : + 0.05 : + 0.05
tolerance degree control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm	: + 4.0 : 102.0 : + 6.0 : 11.40 : 1150 : + 5 : 4.00	Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 1200 : 12.75 : + 0.05 : + 0.05

Pressure hPa : 480 rack travel mm : 11.40 : +- 0.20 Tolerance mm

Pressure hPa : 240 rack travel mm : 9.45 Tolerance mm : \leftarrow 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 76.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 11.40 Rated speed rpm : 1150 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 761

Injection pump

Pump designation : PES6P100A320LS3317 EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A576 Governer no. : 0 421 833 432

Cust. part No. : 1817593091

Customer-spec. information Customer : NAVISTAR Motor : DT-531 Power KW : 161.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mam: 10.50 Tolerance mam: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 151.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

okes: o.u

Check tolerance cm3/1000s. Rack travel in mm Tolerance mm (B) SETTING OF INWITH GOVERNOR	: + 0.10	Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm rack travel mm Rated speed rpm	: 0.85 : +- 0.55 : 1300
		LOW IDLE	
GUIDE SLEEVE POSI	TION	1	
Rated speed rpm		control leverposition degreetolerance degre	: 72.0 e : + 6.0
Rack travel in mm Tolerance mm		control lever position degree	
governor spring pre-tension	r 00	tolerance degre	e : +- 4.0
click setting x	: 5.00	+ Testing:	
	Y AT FULL LOAD STOP	- Rated speed rpm - rack travel mm - Tolerance mm	: 5.30
Rated speed rpm Aneroid pressure	: 1100	Rated speed rpm	: 100
hPa Del. quantity cm3/1000 strokes	: 1200 : 151.0	CRT mm min.	: > 19.00
cm3/1000 strokes Check tolerance cm3/1000s.		TORQUE CONTROL	
Spreed cm3/1000 strokes		Rated speed rpm	
Check tolerance cm3/1000s.	: 12.0	Tolerance mm	
CONTROL LEVER		ANEROID/ALTITUDI COMPENSATOR TES	
		CETTING	
control lever position degree tolerance degree	: 51.0 : + 4.0	+ SETTING + Rated speed rpm + Pressure hPa	: 1100 : 1200
control lever position degree tolerance degree	: 101.0 : + 6.0	rack travel mm	: 13.35
RATED SPEED		MEASUREMENT	
rack travel mm Rated speed rpm Tolerance 1/min	: 1150	Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 8.60
rack travel mm Rated speed rpm	: 4.00 : 1195	Rated speed rpm	: 1100

Pressure hPa : 540 rack travel mm : 11.90 Tolerance mm : +- 0.20

Pressure hPa : 250 rack travel mm : 9.45 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - Fated speed rpm : 500

Del. quantity

cm3/1000 strokes : 76.5 cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1150
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 145.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 763

Injection pump

Pump designation : PES6P100A320LS3317

EP type number : 0 412 006 706

Governor

Governer design. : RSV415...1100P8A579

Governer no. : 0 421 833 435

Cust. part No. : 1822012091

Customer—spec. information
Customer : NAVISTAR
Motor : DT-466
Power KW : 134.0

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 125.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

Obsert Automores			
Check tolerance cm3/1000s.	: 12.0	† Tolerance 1/min	: +- 5
		+ rack travel mm	: 0.85
		+ Tolerance mm	: +- 0.55
Rack travel in mo	n: 5.40	+ Rated speed rpm	: 1300
Tolerance mm	: +- 0.10	+	
		+ rack travel mm	
(D) 000000110 00 Th	LIPOTTON DUMP	+ Rated speed rpm	1200
(B) SETTING OF IN	NJECTION PUMP	†	
WITH GOVE YOR		Ī	
		LOW IDLE	
	· · · · · · · · · · · · · · · · · · ·	+	
GUIDE SLEEVE POST	CTION	+	
	200	+ control lever	7/ 0
Rated speed rpm	: 800	+ position degree	: 74.0
Rack travel in m	0.50	tolerance degree	: +- 0.0
Tolerance mm		T control lever	
I SECTORIOS WITH		position degree	: 24.0
governor spring		+ tolerance degree	
pre-tension		+	
click setting x	: 5.00	+ Testing:	
		†	. /45
CULL LOAD DELTHE	RY AT FULL LOAD STOP	+ Rated speed rpm + rack travel mm	
LOUR FOND DELIVER	RT AT FULL LUAD STOP	+ Tolerance mm	
Rated speed rpm	: 1100	T roterance min	. , 0.10
Aneroid pressure		+ Rated speed rpm	: 100
hPa	: 1200	+	
Del. quantity		+ CRT mm min.	: > 19.00
cm3/1000 strokes		+	
cm3/1000 strokes	: +- 1.0	+	
Check tolerance	7.0	+ TORQUE CONTROL	
cm3/1000S. Spreed	: +- 3.0	Rated speed rpm	: 1100
cm3/1000 strokes	: 8.0	+ rack travel mm	
Check tolerance		+ Tolerance mm	: +- 0.05
cm3/1000S.	: 12.0	+	
		+	
		+ ANEROID/ALTITUDE	
CONTROL LEVER		+ COMPENSATOR TEST	
CONTROL LEVER		I	
control lever		SETTING	
position degree	: 55.0	+	
tolerance degree		+ Rated speed rpm	: 1100
_		+ Pressure hPa	: 1200_
control lever	405.0	+ rack travel mm	: 12.35
position degree	: 105.0	+ Tolerance mm	: +- 0.05
tolerance degree	: + 6.0	# MEASUREMENT	
RATED SPEED		TIENSUREPIEIVI	
THE UI LLV		+ Pressure hPa	: -
rack travel mm	: 11.20	+ Rated speed rpm	: 500
Rated speed rpm		+ rack travel mm	
Tolerance 1/min	: +- 5	† Tolerance mm	: +- 0.20
		† 5	4400
rack travel mm	: 4.00	+ Rated speed rpm	: 1100
Rated speed rpm	: 1195	†	

Pressure hPa : 440 rack travel mm : 11.40 Tolerance mm : + 0.20

Pressure hPa : 240 rack travel mm : 9.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 81.5 cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1160
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 130.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : + 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13,11,96 Edition Test oil : ISO 4113

Combination No. : 0 402 076 769

Injection pump

Pump designation : PES6P100A320LS3319 EP type number : 0 412 006 707

Governor

Governer design. : RSV350...1300P5A588

Governer no. : 0 421 833 448

Cust. part No. : 1820888091

Customer-spec. information Customer : NAVISTAR Motor : DT-408 Power KW : 171.5

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C ; +- 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8

Overflow quantity

min. l/h : 260 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : + 3.00 : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.05 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 149.5

cm3/1000 strokes : + 1.0

Check tolerance : +- 3.0

cm3/1000s.

Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Rack travel in mm Tolerance mm	: 5.60 : + 0.10
(B) SETTING OF INWITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: 0.50 : + 0.20
governor spring pre-tension click setting x	: 3.75
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1300
hPa Del. quantity	: 1200
cm3/1000 strokes cm3/1000 strokes	: 149.5 : +- 1.0
Check tolerance cm3/1000s.	: +- 3.0
Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
CONTROL LEVER	
control lever	
	: 111.0 : + 6.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 12.00 : 1345 : +- 5
rack travel mm Rated speed rpm	: 4.00 : 1405
	•

Tolerance 1/min	: ← 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1500
rack travel mm Rated speed rpm	: 4.00 : 1410
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 6.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.60 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 13.05 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300 : 1200 : 13.05 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 8.30 : + 0.20
Rated speed rpm	: 1300
Pressure hPa rack travel mm Tolerance mm	: 710 : 11.80 : + 0.20

Pressure hPa : 320 rack travel mm : 9.35 Tolerance mm : \leftarrow 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 400

Del. quantity

cm3/1000 strokes : 74.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1345
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm Del. quantity

cm3/1000 strokes : 135.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

: **←** 25.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 770

Injection pump

Pump designation : PES6P110A320LS3318

: -1

EP type number : 0 412 016 749

Governor

Governer design. : RSV350...750P4A561

: -1

Governer no. : 0 421 833 451

Cust. part No. : 1823837092

Customer-spec. information
Customer : NAVISTAR
Motor : DT-531
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

tolerance mm

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 4

: + 0.10

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: + 0.50

BASIC SETTING

Rated speed rpm : 650

Rack travel in mm : 12.55 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 225.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000S. : +- 3.0

Spreed

cm3/1000 strokes	. 40 ±	
CMD/ 1000 3C1 ORES	·	RATED SPEED
Check tolerance	: 6.5	made imposal may 20 20
cm3/1000s.	: 6.5	rack travel mm : 10.20 Rated speed rpm : 750
Rated speed rpm	: 340	Tolerance 1/min : + 5
•	+	
Dook Annual du mo	. 5 30	rack travel mm : 4.00 Rated speed rpm : 800
Rack travel in mm Tolerance mm	1: + 0.10	Rated speed rpm : 800 Tolerance 1/min : +- 5
Del. quantity	1	roceration rimini
cm3/1000 strokes		rack travel mm : 0.85
cm3/1000 strokes Check tolerance	: + 2.0	Tolerance mm : + 0.55
cm3/1000s.	: +- 4.5	Rated speed rpm : 900
Spreed	+	rack travel mm : 4.00
cm3/1000 strokes	: 8.0	Rated speed rpm : 805
Check tolerance	: 12.0	
cm3/1000s.	: 12.0	
	1	LOW IDLE
(B) SETTING OF IN	JECTION PUMP	
WITH GOVERNOR	1	control lever
	<u> </u>	position degree : 26.0
		tolerance degree : +- 4.0
GUIDE SLEEVE POSI	TION	Tooking
Rated speed rpm	: 800	Testing:
Marca opera i pii	+	Rated speed rpm : 340
Rack travel in mm		rack travel mm : 5.20
Tolerance mm	: + 0.20	Tolerance mm : + 0.10
governor spring	Ţ	Rated speed rpm : 100
pre-tension	+	
click setting x	: 4.00	CRT mm min. : > 19.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm	: 650	Rated speed rpm : 650
Aneroid pressure	+	rack travel mm : 12.55
hPa	: - +	Tolerance mm : \leftarrow 0.05
Del. quantity cm3/1000 strokes	: 225.5	
cm3/1000 strokes	÷ + 1.0	
Check tolerance	+	
cm3/1000s.	: ← 3.0 †	
Spreed cm3/1000 strokes	: 4.0	BREAKAWAY
Check tolerance	+	
cm3/1000s.	: 6.5	.
	†	Rack travel in mm : 10.20 Rated speed rpm : 750
	I	Tolerance 1/min : +- 5
CONTROL LEVER	1	
control lever	+	
position degree	: 47.0	STARTING FUEL DELIVERY
tolerance degree	: +- 4.0 +	

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	; +-	0.50
Del. quantity		
cm3/1000 strokes	:	145.0
cm3/1000 strokes	: +-	20.0
Check tolerance		
cm3/1000s.	: +-	25.0

LOW IDLE

Rated speed rpm	:	340	
Del. quantity cm3/1000 strokes	:	35.0	
cm3/1000 strokes	: +-	2.0	
Check tolerance		, -	
cm3/1000s. Spreed	: +	4.5	
cm3/1000 strokes	:	8.0	
Check tolerance	_	12.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 076 772

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A593

Governer no. : 0 421 833 456

Cust. part No. : 1823921091

Customer-spec. information Customer : NAVISTAR Motor : DT-466

Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

: 40 : +- 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 98.5

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

C02

Check tolerance cm3/1000s. : Rack travel in mm : Tolerance mm : +	5.50	Rated speed rpm rack travel mm Rated speed rpm	: 4.00
(B) SETTING OF INJECT WITH GOVERNOR	ION PUMP	LOW IDLE control lever position degree	: 70.0
GUIDE SLEEVE POSITION Rated speed rpm : Rack travel in mm : Tolerance mm : +	800 0.50	tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: 415 : 5,50
governor spring pre-tension	4.00	Rated speed rpm CRT mm min.	
Check tolerance	1100 1200 98.5 - 1.0 - 3.0 8.0	TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 11.20 : + 0.05 : 800
CONTROL LEVER control lever position degree : tolerance degree : +	12.0 102.0 - 6.0	SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 500 : 1200 : 12.35 : + 0.20
RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : +- rack travel mm : Rated speed rpm : Tolerance 1/min : +- rack travel mm : Tolerance mm : +-	10.20 1150 - 5 4.00 1190 - 5 0.85 - 0.55	Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 500 : 420 : 11.50 : + 0.20 : 210 : 9.70 : + 0.05

Aneroid pressure

hPa Rated speed rpm 800

Del. quantity

cm3/1000 strokes : 127.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm :

Del. quantity cm3/1000 strokes : 82.0 cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.0

BREAKAWAY

Rack travel in mm : 10.20 Rated speed rpm : 1150 10.20 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 : +- 0.50 Tolerance mm Del. quantity

cm3/1000 strokes : 153.0 cm3/1000 strokes : \leftarrow 20.0 Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 773

Injection pump

Pump designation : PES6P100A320LS3342

EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A595

Governer no. : 0 421 833 461

Cust. part No. : 1824625091

Customer-spec. information
Customer : NAVISTAR
Motor : DT-530
Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

15

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.45
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 120.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 8.0

0.0

Check tolerance : 12.0 cm3/1000s. Rack travel in mm : 5.80 Tolerance mm : +- 0.10 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION 800 Rated speed rpm : Rack travel in mm: 0.50 Tolerance mm : \leftarrow 0.20 governor spring pre-tension click setting x : 4.00FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure : 1200 hPa Del. quantity cm3/1000 strokes : 120.0 cm3/1000 strokes : + 1.0 Check tolerance : ← 3.0 cm3/1000s.Spreed cm3/1000 strokes : 8.0 Check tolerance : cm3/1000s. 12.0 CONTROL LEVER control lever position degree : 107.0 tolerance degree : +- 6.0 RATED SPEED rack travel mm : 11.40 Rated speed rpm : 1150 Tolerance 1/min : +-: 4.00 rack travel mm Rated speed rpm : 1200 Tolerance 1/min : + 5 rack travel mm 0.85 : **←** 0.55 Tolerance mm

Rated speed rpm : 1300 rack travel mm : 4.0 Rated speed rpm : 1205 4.00 LOW IDLE control lever position degree : 77.0 tolerance degree : + 6.0 Testing: Rated speed rpm : 415 rack travel mm : 5.80 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL : 1100 rack travel mm : 12.72
rack travel mm : + 0.05 Rated speed rpm Rated speed rpm : 800 rack travel mm : 13.40 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : Pressure hPa : 1200 rack travel mm : 13.40 Tolerance mm : +- 0.05 MEASUREMENT Rated speed rpm : 500 510 Pressure hPa rack travel mm 12.20 : + 0.20 Tolerance mm 250 Pressure hPa rack travel mm : 10.05 : + 0.05

Tolerance mm

Aneroid pressure

hPa 800 Rated speed rpm :

Del. quantity cm3/1000 strokes : 146.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 78.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. 4.0

BREAKAWAY

Rack travel in mm: 11.40 Rated speed rpm : 1150 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50

Del. quantity cm3/1000 strokes : 160.0 cm3/1000 strokes : + 20.0

Check tolerance cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.11.96 Edition : 13.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 774

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A596

Governer no. : 0 421 833 462

Cust. part No. : 1824624091

Customer-spec. information Customer : NAVISTAR Motor : DT-530 Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C ; - 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance "NW : \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 109.0

cm3/1000 strokes : + 1.0

Check tolerance : +- 3.0 cm3/1000s.

Spreed

cm3/1000 strokes : 8.0

CO8

cm3/1000s. Rack travel in mm Tolerance mm		rack travel mm Rated speed rpm	: 4.00 : 1205
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	LOW IDLE control lever position degree tolerance degree	
GUIDE SLEEVE POSI	TION	+	0.0
Rated speed rpm	: 800	† Testing: †	
Rack travel in mm Tolerance mm		Rated speed rpm rack travel mm Tolerance mm	: 415 : 5.20 : + 0.10
governor spring		Rated speed rpm	: 100
pre-tension click setting x	: 4.00	CRT mm min.	: > 19.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL	
Rated speed rpm Aneroid pressure hPa Del. quantity		Rated speed rpm rack travel mm Tolerance mm	: 11.55
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0	Rated speed rpm rack travel mm Tolerance mm	: 12.50
Spreed cm3/1000 strokes Check tolerance cm3/1000s.		ANEROID/ALTITUDE COMPENSATOR TEST	
		SETTING	
control lever position degree tolerance degree	: 105.0 : +- 6.0	Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 800 : 1200 : 12.50 : + 0.20
RATED SPEED		† Rated speed rpm	: 800
rack travel mm Rated speed rpm Tolerance 1/min	: 1150 : + 5	+ Pressure hPa + rack travel mm + Tolerance mm	: 445 : 11.40 : + 0.20
rack travel mm Rated speed rpm Tolerance 1/min		Pressure hPa rack travel mm Tolerance mm	: 230 : 9.50 : + 0.05
rack travel mm Tolerance mm	: 0.85 : + 0.55	TOTAL INC.	0.05
c09			

Rated speed rpm : 1300

Check tolerance cm3/1000s. : 12.0

Aneroid pressure

hPa : 1200 Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 138.5 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 77.5
cm3/1000 strokes : + 2.0
Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 10.50 Rated speed rpm: 1150 Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 153.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13,11,96 Edition Test oil : ISO 4113

Combination No. : 0 402 076 775

Injection pump

Pump designation : PES6P100A320LS3342 EP type number : 0 412 006 710

Governor

Governer design. : RSV415...1100P8A597

Governer no. : 0 421 833 463

Cust. part No. : 1824626091

Customer-spec. information Customer : NAVISTAR Motor : DT-530 Power KW : 153.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 076

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

3.00 Prestroke mm : +- 0.05 Tolerance mm Check

: ← 0.10 tolerance mm

Rack travel in mm: 10.50 : **←** 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.55 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 104.5

cm3/1000 strokes : + 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

cm3/1000 strokes : 8.0

C11

Check tolerance cm3/1000s.	: 12.0	+ Rated speed rpm	: 1300
Rack travel in mm	: 5.60	rack travel man Rated speed rpm	
(B) SETTING OF IN		LOW IDLE	
		control leverposition degreetolerance degree	
GUIDE SLEEVE POSI	TION	† † Testing:	
Rated speed rpm	: 800	Rated speed rpm	٠ 415
Rack travel in mm Tolerance mm		rack travel mm Tolerance mm	: 5.60
governor spring pre-tension		Rated speed rpm	: 100
click setting x	: 4.75	CRT man min.	: > 19.00
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL	
Rated speed rpm Aneroid pressure hPa		Rated speed rpm rack travel mm Tolerance mm	: 11.55
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0	Rated speed rpm rack travel mm Tolerance mm	: 12.50
Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0	ANEROID/ALTITUDE COMPENSATOR TEST	
		SETTING	
CONTROL LEVER control lever position degree tolerance degree		Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 800 : 1200 : 12.55 : + 0.10
RATED SPEED		Rated speed rpm	: 800
rack travel mm Rated speed rpm Tolerance 1/min	: +- 5	Pressure hPa rack travel mm Tolerance mm	: 435 : 11.60 : + 0.20
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1200 : +- 5	Pressure hPa rack travel mm Tolerance mm	: 250 : 10.05 : + 0.05
rack travel mm Tolerance mm	: 0.85 : + 0.55	‡.	

Aneroid pressure

hPa 800 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 131.0 cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s.: +- 4.0

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity

cm3/1000 strokes : 78.5 cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s.

BREAKAWAY

Rack travel in mm: 10.50 Rated speed rpm : 1150 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 150.0 cm3/1000 strokes : +- 20.0 Check tolerance

cm3/1000s. : **←** 25.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 11.11.96 : ISO 4113

Combination No. : 0 402 736 813

Injection pump

Pump designation : PES6P110A120RS7214

EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1100PA964

: -5K

Governer no.

: 0 421 815 257

Cust. part No. : 3921772

Customer—spec. information Customer : CDC : 6CTA-A Motor Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

C14

x inside diameter : 2.0 x length mm :

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REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance Check

: +- 0.50

tolerance °NW : +- 0.75

Start of delivery blocking

°NW before FB

: 5.50

Tolerance

: + 0.10

Check

tolerance *NW

: +- 0.23

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

1100

Rack travel in mm: 14.55

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes : 187.5

cm3/1000 strokes : + 1.0

: +- 4.0

Check tolerance

cm3/1000S.

Spreed

cm3/1000 strokes	: 5.0	cm3/1000 strokes Check tolerance	: +- 1.0
Check tolerance cm3/1000s.	; 9.0	cm3/1000S. Spreed	: +- 4.0
Rated speed rpm	+	cm3/1000 strokes Check tolerance	: 5.0
, ,	‡	cm3/1000s.	: 9.0
Rack travel in mm Tolerance mm			
Del. quantity cm3/1000 strokes	: 30.0	CONTROL LEVER	
cm3/1000 strokes Check tolerance		control lever position d e gree	• 118.0
cm3/1000s. Spreed	: + 5.0	tolerance degree	
cm3/1000 strokes Check tolerance	: 8.0	RATED SPEED	
cm3/1000s.	: 12.0	rack travel mm Rated speed rpm	
(B) SETTING OF IN	LIFCTION PUMP	Tolerance 1/min	
WITH GOVERNOR	1	rack travel mm Rated speed rpm	
CHINE OF FIVE TRAV		Tolerance 1/min	
GUIDE SLEEVE TRAV	+	rack travel mm	
Rated speed rpm guide sleeve	: 350	Tolerance mm Rated speed rpm	
travel mm	: 1.90		
Tolerance mm	: + 0.10		
Rated speed rpm guide sleeve	: 1000	LOW IDLE	
travel mm	: 8.20 : + 0.10	control lever	
Tolerance mm	: - 0.10	position degree	: 67.0
Rated speed rpm guide sleeve	+	tolerance degree	
travel mm Tolerance mm	: 3.30 : + 0.20	Testing:	
Rated speed rpm	+	Rated speed rpm	: 350
	· · · · · · · · · · · · · · · · · · ·	rack travel mm Tolerance mm	: +- 0.10
guide sleeve travel mm Tolerance mm	: 5.30 + : + 0.20 +	Rated speed rpm	• 275
	T .		
Rated speed rpm guide sleeve	li di	CRT mm min.	
guide sleeve travel mm Tolerance mm	: 9.80 : + 0.20	Rated speed rpm	: 425
10to. di joo iliin	+		
FULL LOAD DELIVER	Y AT FULL LOAD STOP	TORQUE CONTROL	4400
Rated speed rpm	: 1100	Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.55
Aneroid pressure hPa			
Del. quantity cm3/1000 strokes	+	Rated speed rpm rack travel mm	: 650 : 13.60
·	·		

Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING	: 13.10	+ 0	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 93.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0 BREAKAWAY
Rated speed rpm Pressure hPa MEASUREMENT	: 1100 : 1500	 	Rack travel in mm : 13.50 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 7.90 : ← 0.20 : 1100 : 845 : 13.80 : ← 0.20 : 335 : 10.15	+ 1	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 11.30 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 155.0 cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 25.0
			LOW IDLE
Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: > 100 : < 290 : > 80 : < 300	+ + + + + + + + + + + + + + + + + + + +	Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 30.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
FUEL DELIVERY CHA	: 1500	+ + +	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 650 : 203.5 : + 3.0 : + 6.0 : 8.0 : 12.0	+ - E	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.96 Edition Test oil : 18.11.96

Combination No. : 0 402 034 700

Injection pump

Pump designation : PES4P120B120RS3379

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1100PA1314K

Governer no. : 0 421 815 543

Cust. part No. : 3928601

Customer-spec. information Customer : CDC Motor : 4BTA-A 93.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : \leftarrow 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

rnasing : 0-90-180-270
Tolerance : + 0.30

Check

: +- 0.75 tolerance 'NW

Start of delivery blocking

*NW after s.o.d. : 6.50 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 140.5

C17

	1
cm3/1000 strokes : + 1.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	† Dated and June 1 1100
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1100 + Aneroid pressure
Spreed	hPa : 1200
cm3/1000 strokes : 8.0	Del. quantity
	+ cm3/1000 strokes : 140.5
Check tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000s. : 12.0	+ Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm : 475	+ cm3/1000s. : +- 4.0 + Spreed
nated speed (pill : 41)	+ cm3/1000 strokes : 8.0
	+ Check tolerance
Rack travel in mm : 5.70	+ cm3/1000s. : 12.0
Tolerance mm : + 0.10	†
Del. quantity cm3/1000 strokes : 26.5	İ
cm3/1000 strokes : 20.3	CONTROL LEVER
Check tolerance	+
$cm3/1000s$. : \leftarrow 5.0	+ control lever
Spreed	position degree : 113.0
cm3/1000 strokes : 4.0	tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 8.0	+ RATED SPEED
. 0.0	THE STEED
	rack travel mm : 10.40
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1155
WITH GOVERNOR	† Tolerance 1/min : + 15
	+ rack travel mm : 6.70
GUIDE SLEEVE TRAVEL	+ Rated speed rpm : 1230
	+ Tolerance 1/min : + 5
Rated speed rpm : 475	+
guide sleeve travel mm : 1.59	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
travel mm : 1.59 Tolerance mm : +- 0.20	+ Tolerance mm : + 0.50 + Rated speed rpm : 1350
Total ance in	- Nated Speed (pill : 1556
Rated speed rpm : 1163	+
guide sleeve	100 70 5
travel mm : 7.66 Tolerance mm : + 0.15	+ LOW IDLE
Tolerance mm : + 0.15	I
Rated speed rpm : 931	- control lever
guide sleeve	position degree : 70.0
travel mm : 5.89	tolerance degree : +- 4.0
Tolerance mm : +- 0.25	† Tanting.
Rated speed rpm : 670	Testing:
guide sleeve	Rated speed rpm : 475
travel mm : 3.53	+ rack travel mm : 5.70
Tolerance mm : + 0.25	+ Tolerance mm : +- 0.10
6 A . d d	t pated aread area (00
Rated speed rpm : 1660	Rated speed rpm : 400
guide sleeve travel mm : 13.50	+ CRT mm min. : > 6.80
Tolerance mm : + 0.50	+
	Rated speed rpm : 550
	+

TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.45 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.30 : + 0.20
Rated speed rpm rack travel mm Tolerance mm	
ANEROID/ALTITUDE COMPENSATOR TEST	***************************************
SETTING	
Rated speed rpm Pressure hPa	: 1100 : 1200
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mma	: - : 1100 : 9.60 : + 0.20
Rated speed rpm	: 1100
Pressure hPa rack travel mm Tolerance mm	: 765 : 11.00 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 600 : 10.00 : + 0.20
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 415
Check speed 1/min Check	: > 80
speed 1/min	: < 425
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: 1200
	

Del. quantity	
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 144.5 : +- 3.0
cm3/1000s. Spreed	: +- 6.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 1100
cm3/1000 strokes cm3/1000 strokes	: 107.0 : + 1.0
Check tolerance cm3/1000s.	: + 3.0
BREAKAWAY	
Rack travel in mma	: 1155
Tolerance 1/min	: +- 15
STARTING FUEL DEL	
STARTING FUEL DEL Rated speed rpm rack travel mm	IVERY : 100 : 21.00
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity	IVERY : 100 : 21.00 : + 0.50
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes	IVERY : 100 : 21.00 : + 0.50
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	IVERY : 100 : 21.00 : + 0.50 : 176.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	IVERY : 100 : 21.00 : + 0.50 : 176.0 : + 20.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm	IVERY : 100 : 21.00 : + 0.50 : 176.0 : + 20.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes	IVERY : 100 : 21.00 : + 0.50 : 176.0 : + 20.0 : + 25.0 : 475 : 26.5
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance	: 100 : 21.00 : + 0.50 : + 0.50 : + 20.0 : + 25.0 : + 25.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 100 : 21.00 : + 0.50 : + 0.50 : + 20.0 : + 25.0 : + 25.0 : 475 : 475 : + 3.0 : + 5.0
STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 21.00 : + 0.50 : + 0.50 : + 20.0 : + 25.0 : + 25.0

hPa : 1200 Rated speed rpm : 750

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 736 913

Injection pump

Pump designation : PES6P120A120RS7369 EP type number : 0 412 726 935

Governor

Governer design. : RQV400...1400PA1211

: -1K

Governer no. : 0 421 815 530

Cust. part No. : 3931538

Customer-spec. information Customer : CDC Motor : 6BTA-A Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance *C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.00Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 12.00 : + 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 14.45

Tolerance mm : +- 0.05

	+ Tolerance mm : +- 0.25
Del. quantity	+
cm3/1000 strokes : 180.0	+ Rated speed rpm : 1000 + guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 5.53
	+ Tolerance mm : + 0.25
Check tolerance	+
cm3/1000s. : +- 4.0	+ Rated speed rpm : 2130 - guide sleeve
Spreed	travel mm : 13.50
cm3/1000 strokes : 8.0	+ Tolerance mm : +- 0.50
	†
Check tolerance cm3/1000s. : 13.0	FULL LOAD DELIVERY AT FULL LOAD STOP
CM3/10003. : 13.0	FOLL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 420	Rated speed rpm : 1300
	+ Aneroid pressure
Dool Annual in my 4 10	+ hPa : 1500
Rack travel in mm : 6.10 Tolerance mm : + 0.20	+ Del. quantity + cm3/1000 strokes : 180.0
Del. quantity	cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 16.5	+ Check tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000s. : +- 4.0
Check tolerance	+ Spreed
cm3/1000s. : + 5.0	+ cm3/1000 strokes : 8.0
Spreed cm3/1000 strokes : 3.0	+ Check tolerance + cm3/1000s. : 13.0
Check tolerance	13.8
cm3/1000s. : 7.0	+
	
(D) OFTENO OF THEFETTON DUMO	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	+
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever
WITH GOVERNOR	control lever
	control lever position degree : 117.0 tolerance degree : + 6.0
GUIDE SLEEVE TRAVEL	control lever position degree : 117.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 400	control lever position degree : 117.0 tolerance degree : +- 6.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 400	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50
GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve guide sleeve : 462 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1850 LOW IDLE
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve guide sleeve : 462 guide sleeve	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850 LOW IDLE control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1850 LOW IDLE
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 400 guide sleeve travel mm : 2.01 Tolerance mm : + 0.25 Rated speed rpm : 1410 guide sleeve travel mm : 8.73 Tolerance mm : + 0.25 Rated speed rpm : 1488 guide sleeve travel mm : 9.53 Tolerance mm : 9.53 Tolerance mm : + 0.25 Rated speed rpm : 462 guide sleeve travel mm : 2.91 Tolerance mm : + 0.25	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 13.40 Rated speed rpm : 1450 Tolerance 1/min : + 25 rack travel mm : 5.50 Rated speed rpm : 1650 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1850 LOW IDLE control lever position degree : 67.0

		1 01		
Dated speed non	, /20		neck beed 1/min	• > 80
Rated speed rpm	. 42U . 4.10		neck	. > 00
rack travel mm Tolerance mm	· +~ 0.10		peed 1/min	: < 350
		+ 35	occu mmi	. \ 350
Rated speed rpm	: 300	+ + FU	JEL DELIVERY CHAI	RACTERISTICS
CRT mm min.	: > 8.70	+		
Rated speed rpm	. /25	+ Ari	neroid pressure	: 1500
Rated Speed (pill	. 425		ated speed rpm	
			el. quantity	. 000
TORQUE CONTROL		+ cm	3/1000 strokes	: 118.0
7011102		+ cm	3/1000 strokes	: +- 3.0
Rated speed rpm	: 1300		neck tolerance	
rack travel mm	: 14.45		3/1000s.	: +- 6.0
Tolerance mm	: ← 0.05	+ Sp	preed	
			3/1000 strokes	: 8.0
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.80		eck tolerance	
rack travel mm	: 11.80	+ cm	3/1000s.	: 13.0
Tolerance mm	: +- 0.20	† .	• •	
Data di d	. 4400	1	neroid pressure	
Rated speed rpm	17100	+ hP		1700
rack travel mm Tolerance mm	13.30	† Ka	nted speed rpm	: 1500
ioterance mm	· - 0.20	† De	el. quantity	. 70 5
·			3/1000 strokes 3/1000 strokes	· + 2 f
ANEROID/ALTITUDE			eck tolerance	2.0
COMPENSATOR TEST		I cu	3/1000s.	: + 4.0
CON ENOMION TEOT		ļ · '''	A7 100001	, , , , , , , , , , , , , , , , , , , ,
		+ -		
SETTING		± BR	REAKAWAY	
Rated speed rpm	: 1300			
Rated speed rpm Pressure hPa	: 1500	→ Ra	ick travel in mm	: 13.40
		→ Ra	ited speed rpm	: 1450
MEASUREMENT			lerance 1/min	
		+		
Pressure hPa	: -	+		
Rated speed rpm	: 1300	+ =	ADTING FUEL NELS	UCDV
rack travel mm	: 9.50	† ST.	ARTING FUEL DELI	VERT
Tolerance mm	: + 0.20	1 00	ted speed rpm	: 100
Rated speed rpm	: 1300		ick travel mm	: 12.80
hacea speed (MII	. 1500	· · · · · · · · · · · · · · · · · · ·	lerance mm	: + 0.50
Pressure hPa	: 965	•	l. quantity	. 0.00
rack travel mm	: 13.00		3/1000 strokes	: 157.0
Tolerance mm	: +- 0.30		3/1000 strokes	
• • • • • • • • • • • • • • • • • • • •		- Ch	eck tolerance	
Pressure hPa	: 390	+ cm	3/1 00 0s.	: ← 25.0
rack travel mm	: 10.80	+		
Tolerance mm	: +- 0.20	†		
START CUT-OUT		† LOI	W IDLE	
Rated speed rpm	: > 100	- Ra•	ted speed rpm	: 420
Rated speed rpm		+ De	l. quantity	
•		+ cm	3/1000 strokes	
		+ cm	3/1000 strokes	: +- 3.0

Check tolerance cm3/1000s. : +- 5.0

Spreed

cm3/1000 strokes : 3.0

Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 615

Injection pump

Pump designation : PES6P120A320RS7419

EP type number : 0 412 726 961

Governor

Governer design. : RQV300...1250PA1289K Governer no. : 0 421 815 520

Cust. part No. : 386 6800

Customer—spec. information Customer : CDC Motor : 6CTA : 249.5 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

: 3.60 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 12.25 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.60 Tolerance mm : +- 0.05

C25

	+	Tolerance mm	: +- 0.50
Del. quantity	+		
cm3/1000 strokes :	203.5		
	-	FULL LOAD DELIVERY	AT FULL LOAD STOP
cm3/1000 strokes : +	1.0		
	1	Rated speed rpm	: 1250
Check tolerance		Aneroid pressure	
cm3/1000s. : +-	4.0	hPa	: 1200
(11)7 10003.	7.0	Del. quantity	. 1200
Canada			. 207 5
Spreed	, , , †		: 203.5
cm3/1000 strokes :	8.0 +		: +- 1.0
		Check tolerance	
Check tolerance	·	cm3/1000s.	: +- 4.0
cm3/1000s. :	12.0	Spreed	
	+		: 8.0
Rated speed rpm :	300 +	Check tolerance	
	+	cm3/1000s.	: 12.0
	+		
Rack travel in mm :	6.35		
Tolerance mm : +-	<u> </u>		
Del. quantity	1	CONTROL LEVER	
cm3/1000 strokes :	32.5		
cm3/1000 strokes : +-		control lever	
Check tolerance	J.0	position degree	: 117.0
	5.0 I	tolerance degree	
	7.0	toterance degree	: +- 4.0
Spreed	T .	04750 0055	
cm3/1000 strokes :	5.0	RATED SPEED	
Check tolerance	†		
cm3/1000s. :	8.0 +	rack travel mm	: 11.60
	+	Rated speed rpm	: 1320
	+	Tolerance 1/min	; 5
(B) SETTING OF INJECTION	ON PUMP +		
WITH GOVERNOR	+	rack travel mm	: 4.00
	į.	Rated speed rpm	: 1470
			: +- 15
GUIDE SLEEVE TRAVEL	1		
dotal office white	1	rack travel mm	: 0.50
Rated speed rpm :	300		: + 0.50
guide sleeve	1	_	: 1575
	1.29	Rated Speed I pill	. 1575
travel mm :			
Tolerance mm : +-	0.20		
	4770	1011 701 5	
	1372 +	LOW IDLE	
guide sleeve	†		
travel mm :	9.86		
Tolerance mm : +-	0.15	control lever	
	+	position degree	
Rated speed rpm :	917	tolerance degree	: +- 4.0
guide sleeve	+	_	
	6.76	Testing:	
	0.25		
- च ५ च १ चाराच च भागा 🔻 🦘	1	Rated speed rpm	: 300
Rated speed rpm :	590		6.35
guide sleeve	I		· + 0.20
	4.95	TOLET GITTE IMI	0.20
travel mm :		Datad anotal arm	. 250
Tolerance mm : +-	0.25	Rated speed rpm	: 250
	·740	ODT	
	1710 +	CRT mm min.	: > 7.80
guide sleeve	+		
travel mm :	13.50	Rated speed rpm	: 450
	·		
_			

TORQUE CONTROL

Rated speed rom 1250 12,60 rack travel mm Tolerance mm : **←** 0.05

800 Rated speed rpm 12.20 rack travel mm : + 0.10 Tolerance mm

: 1100 Rated speed rpm 12.55 rack travel mm Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

1100 Rated speed rpm Pressure hPa 1200

MEASUREMENT

Pressure hPa 1100 Rated speed rpm 9.70 rack travel mm Tolerance mm : + 0.20

Rated speed rpm : 1100

Pressure hPa 670 11.80 rack travel mm Tolerance mm : + 0.20

Pressure hPa 385 rack travel mm 10.50 : + 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 hPa 800 Rated speed rpm

Del. quantity cm3/1000 strokes : 206.0 cm3/1000 strokes : + 3.0Check tolerance

cm3/1000s.6.0 : +-

Spreed cm3/1000 strokes : 8.0

Check tolerance

12.0 cm3/1000s.

Aneroid pressure

Rated speed rpm 1100

Del. quantity cm3/1000 strokes : 122.0 cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.: +-3.0

BREAKAWAY

Rack travel in mm : 11.60 Rated speed rpm : 1320 Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm 9.70 rack travel mm : + 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 176.5 cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 32.5 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 19.11.96

Combination No. : 0 402 746 617

Injection pump

Pump designation : PES6P120A720RS7423 EP type number : 0 412 726 963

Governor

Governer design. : RQV325...975PA909

: -12K

: 0 421 815 531 Governer no.

Cust. part No. : 313GC5224-P10

Customer-spec. information Customer : MACK : EN7300A Motor Power KW : 223.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

Tolerance : +- 0.50

Check

tolerance °NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm: 12.55

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 202.0

	+ cm3/1000 strokes : 5.0
cm3/1000 strokes : +- 1.0	Check tolerance
	+ cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : +- 4.0	†
Spreed	CONTROL LEVER
cm3/1000 strokes : 5.0	T CONTROL LEVER
5.0	- control lever
Check tolerance	position degree : 110.0
cm3/1000s. : 9.0	+ tolerance degree : + 4.0
	TATES ORFE
Rack travel in mm : 5.30	+ RATED SPEED
Tolerance mm : + 0.10	T rack travel mm : 11.60
rocer drice man	+ Rated speed rpm : 1020
	+ Tolerance 1/min : +- 5
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	rack travel mm : 4.00
	+ Rated speed rpm : 1170
GUIDE SLEEVE TRAVEL	†
7.5	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
Rated speed rom : 325	+ Tolerance mm : +- 0.50
guide sleeve travel mm : 1.27	Rated speed rpm : 1250
Tolerance mm : +- 0.20	I
rocer differ in the control of the c	
Rated speed rpm : 1030	LOW IDLE
guide sleeve	+
travel mm : 8.84	}
Tolerance mm : +- 0.15	+ control lever
	+ position degree : 64.0
Rated speed rpm : 524	tolerance degree : + 4.0
guide sleeve	† * • • • •
travel mm : 3.30	+ Testing:
Tolerance mm : ← 0.25	Rated speed rpm : 325
Rated speed rpm : 390	+ rack travel mm : 5.30
guide sleeve	Tolerance mm : + 0.10
travel mm : 2.30	To cot at the time
Tolerance mm : + 0.25	Rated speed rpm : 225
	+
Rated speed rpm : 1430	+ CRT mm min. $: > 4.80$
guide sleeve	†
travel mm : 13.50	+ Rated speed rpm : 400
Tolerance mm : + 0.50	†
	TOPOLIE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STO	TORQUE CONTROL
TOLL LOAD DELIVERY AT FOLL LOAD STO	Rated speed rpm : 975
Rated speed rpm : 975	+ rack travel mm : 12.55
Aneroid pressure	Rated speed rpm : 975 + rack travel mm : 12.55 + Tolerance mm : +- 0.05
hPa : 1200	+
Del. quantity	+ Rated speed rpm : 600
cm3/1000 strokes : 202.0	+ rack travel mm : 12.00
cm3/1000 strokes : +- 1.0	+ Tolerance mm : +- 0.10
Check tolerance	†
cm3/1000s. : +- 4.0	Rated speed rpm : 500 rack travel mm : 11.50
Spreed	† rack travel mm : 11.50

ANEROID/ALTITUDE COMPENSATOR TEST	: +- 0.20	Rated speed rpm : 400 - Del. quantity - cm3/1000 strokes : 148.0 - cm3/1000 strokes : + 2.0 - Check tolerance - cm3/1000s. : + 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 1200	Rack travel in mm : 11.60 Rated speed rpm : 1020 Tolerance 1/min : + 5
Pressure hPa Rated speed rpm	: 975 : 8.20	+ STARTING FUEL DELIVERY
rack travel mm Tolerance mm	: 8.20 : +- 0.20	+ Rated speed rpm : 100
Rated speed rpm	: 975	rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity
Pressure hPa	: 460	+ cm3/1000 strokes : 205.0
rack travel mm Tolerance mm	: 11.30 : ← 0.20	- cm3/1000 strokes : + 20.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm	: 9.30	+ cm3/1000s. : +- 30.0
START CUT-OUT		- - -
Rated speed rpm Rated speed rpm		End of test specification sheet
Check	. > 00	†
speed 1/min Check	: > 80	-
speed 1/min	: < 285	‡
FUEL DELIVERY CHA	RACTERISTICS	- + -
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 600	
cm3/1000 strokes cm3/1000 strokes		‡
Check tolerance cm3/1000s.	: +- 6.0	‡
Spreed cm3/1000 strokes	: 8.0	‡
Check tolerance cm3/1000s.	: 12.0	‡
Aneroid pressure hPa	: -	‡

D02

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.11.96 Test oil : ISO 4113

Combination No. : 9 400 030 722

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100A0C837R

Governer no. : 9 420 034 707

Cust. part No. : DEP: 3928603

Customer—spec. information

Customer : CDC

Motor : CUMMINS-4BTA-3.9

Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : + 0.10

Check

tolerance *NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.85

Tolerance mm : + 0.05

D03

Del. quantity cm3/1000 strokes : 110.0	Check tolerance cm3/1000s. : 6.5
cm3/1000 strokes : + 1.0	<u> </u>
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER
Spreed cm3/1000 strokes : 4.0	position degree : 106.0 tolerance degree : +- 4.0
Check tolerance - cm3/1000S. : 6.5	RATED SPEED
Rated speed rpm : 475	rack travel mm : 11.80 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Rack travel in mm: 6.15 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 22.6	rack travel mm : 6.50 Rated speed rpm : 1225 Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0 - Check tolerance cm3/1000s. : + 4.5 - Spreed	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000s. : 8.0 -	rack travel mm : 6.50 Rated speed rpm : 1225
(B) SETTING OF INJECTION PUMP -	LOW IDLE
WITH GOVERNOR -	control lever
WITH GOVERNOR	control lever position degree : 85.0
GUIDE SLEEVE POSITION	control lever position degree : 85.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing:
WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing:
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 110.0	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10 Rated speed rpm : 100
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 110.0 cm3/1000 strokes : + 1.0	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 110.0	control lever position degree : 85.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.65 Testing: Rated speed rpm : 475 rack travel mm : 6.15 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00

rack travel mm : 14.20 Tolerance mm : + 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800 Pressure hPa : 1200

MEASUREMENT

Pressure hPa : Rated speed rpm : 800
rack travel mm : 10.90
Tolerance mm : + 0.20

Rated speed rpm : 800

Pressure hPa : 650 rack travel mm : 12.45 Tolerance mm : + 0.20

Pressure hPa : 550 rack travel mm : 11.75 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1200 Rated speed rpm : 750

Del. quantity

cm3/1000 strokes : 130.0 cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

hPa : Rated speed rpm : 800
Del. quantity
cm3/1000 strokes : 84.0
cm3/1000 strokes : + 1.0
Check tolerance

cm3/1000s. : + 3.0

BREAKAWAY

Rack travel in mm : 11.80
Rated speed rpm : 1150
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : - 0.50 Del. quantity cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

LOW IDLE

Rated speed rpm : 475

Del. quantity
cm3/1000 strokes : 22.6
cm3/1000 strokes : +- 2.0

Check tolerance
cm3/1000s. : +- 4.5

Spreed
cm3/1000 strokes : 6.0

Check tolerance
cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.10.96 Test oil : ISO 4113

Combination No. : 0 401 856 700

Injection pump

Pump designation : PE6P110A721RS3101 EP type number : 0 411 816 725

Governor

Governer design. : RQ300/1200PA412 Governer no. : 0 421 801 172

Cust. part No. :

Customer-spec. information Customer : SNF Motor : WD615.67 Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300
Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : + 0.10 Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 12.05 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 163.0

006

cm3/1000 strokes	: + 1.0	control lever	
Check tolerance cm3/1000s.	: + 4.0	position degree tolerance degree	
Spreed cm3/1000 strokes	: 4.0	RATED SPEED	
Check tolerance cm3/1000s.	7.5	rack travel mm Rated speed rpm Tolerance 1/min	: 1253
Rated speed rpm	: 300	rack travel mm Rated speed rpm Tolerance 1/min	: 1340
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 0.10 : 15.0 : + 3.0	rack travel mm Tolerance mm Rated speed rpm	: 0.75 : + 0.75
cm3/1000s. Spreed cm3/1000 strokes	: + 5.5 : 4.5	LOW IDLE	
Check tolerance cm3/1000s. (B) SETTING OF INJUNITH GOVERNOR	· 7.5 +	control lever position degree tolerance degree Testing:	
GUIDE SLEEVE POSIT	ION	Rated speed rpm rack travel mm Tolerance mm	
	: 600	rack travel mm Rated speed rpm	: 425
Rack travel in mm : Tolerance mm	: 16.00 : +- 0.60	Tolerance 1/min Rated speed rpm	
FULL LOAD DELIVERY	AT FULL LOAD STOP	CRT mm min.	: > 7.50
Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	+ 4.0	TORQUE CONTROL Dimension a mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.45 : + 0.05 : 1075
CONTROL LEVER	+	Rated speed rpm rack travel mm	: 600 : 12.75

Tolerance mm	: +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 12.45 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.00 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 420 : 11.55 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 330 : 10.40 : ← 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure nPa Rated speed rpm Del. quantity cm3/1000 strokes	: 700 : 700 : 167.0
cm3/1000 strokes Check tolerance	: + 2.0 : + 4.0
cm3/1000 strokes Check tolerance cm3/1000S. Aneroid pressure	: +- 2.0
cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure nPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 2.0 : + 4.0 : - 700 : 121.0 : + 1.0
cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure nPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: + 2.0 : + 4.0 : - : 700 : 121.0

Rated speed rpm : 1253

800

Tolerance 1/min : + 8 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 220.0 cm3/1000 strokes : + 15.0 cm3/1000 strong Check tolerance - manns : + 19.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 15.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : +- 5.5 Spreed cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition Test oil : 04.11.96 : ISO 4113

Combination No. : 0 401 876 761

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

Governor

Governer design. : RSV250...900P4A657

Governer no. : 0 421 833 575

Cust. part No. : 3826529 PO1 v. 10/96

Customer-spec. information

Customer : VOLVO-PENTA
Motor : TAMD122 A
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 8.70Tolerance mm : \div 0.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.40

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 264.0	Check tolerance cm3/1000s. : 9.0
cm3/1000 strokes	:+ 1.0	
Check tolerance cm3/1000s.	: + 4.0	CONTROL LEVER
Spreed cm3/1000 strokes	: 5.0	control lever position degree : 62.0 tolerance degree : + 4.0
Check tolerance cm3/1000s.	: 9.0	control lever position degree : 112.0 tolerance degree : + 4.0
Rated speed rpm	: 250	RATED SPEED
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: + 0.10	rack travel mm : 10.40 Rated speed rpm : 960 Tolerance 1/min : + 5
cm3/1000 strokes Check tolerance cm3/1000s.	: ← 3.0 }	rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15
Spreed cm3/1000 strokes Check tolerance	: 5.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000s.		Rated speed rpm : 1130
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1010
GUIDE SLEEVE POSIT	TION	LOW IDLE
Rated speed rpm	: 800	control lever
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	position degree : 78.0 tolerance degree : +- 4.0
governor spring pre-tension	‡	<pre>control lever position degree : 28.0 tolerance degree : +- 4.0</pre>
click setting x	. 4.00	Setting point w/out bumper spring
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm : 250 rack travel mm : 4.60
Aneroid pressure	: 700 : 1500	Testing:
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 264.0	Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10
Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: + 4.0 : 5.0	rack travel mm : 2.00 Rated speed rpm : 410 Tolerance 1/min : +- 30
CHE/ TOUC STRUKES	. 5.0	TO CONTROL OF THE SU

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 11.40 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1500
rack travel mm : 11.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 700
rack travel mm : 8.70
Tolerance mm : + 0.10

Rated speed rpm : 700

Pressure hPa : 770
rack travel mm : 2.70
Tolerance mm : +- 0.20

Pressure hPa : 240 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 178.0 cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : + 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 960
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 8.70 Tolerance mm : +- 0.10

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 762

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

Governor

Governer design. : RSV250...900P4A660

Governer no. : 0 421 833 578

Cust. part No. : 3826532 PO1 v.10/96

Customer-spec. information

Customer : VOLVO-PENTA : TMD 122 A (HD) Motor

Power KW : 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : + 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 8.70

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : **←** 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 9.95

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 213.5

+	
cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance	
cm3/1000s. : +- 4.0 +	control lever position degree : 60.0
Spreed + cm3/1000 strokes : 5.0 +	tolerance degree : +- 4.0
Check tolerance	control lever position degree : 108.0
cm3/1000s. : 9.0	tolerance degree : + 4.0
Rated speed rpm : 250	RATED SPEED
Ţ	rack travel mm : 8.95
Rack travel in mm: 5.10	Rated speed rpm : 930
Tolerance mm : + 0.10	Tolerance 1/min : +- 5
Del. quantity + cm3/1000 strokes : 20.0 +	rack travel mm : 4.00
cm3/1000 strokes : + 3.0 +	Rated speed rpm : 980
Check tolerance +	Tolerance 1/min : +- 15
cm3/1000s. : $+6.0$ +	0.05
Spreed	rack travel mm : 0.85
cm3/1000 strokes : 5.0 +	Tolerance mm : +- 0.55
Check tolerance +	Rated speed rpm : 1130
cm3/1000s. : 8.0 +	
+	rack travel mm : 4.00
+	Rated speed rpm : 990
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	
+	
‡	LOW IDLE
CHINE SLEEVE DOSTITON	LOW IDLE
GUIDE SLEEVE POSITION	
+	control lever
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 79.0
Rated speed rpm : 800	control lever
Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 79.0 tolerance degree : +- 4.0
Rated speed rpm : 800	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	control lever position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700	control lever position degree : 79.0 tolerance degree : + 4.0 control lever position degree : 31.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 250
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 213.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 700 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 213.5 cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 700 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 213.5 cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes: 5.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 700 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 213.5 cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s: + 4.0 Spreed cm3/1000 strokes: 5.0 Check tolerance	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 410 Tolerance 1/min : +- 30
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 6.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 700 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 213.5 cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes: 5.0	control lever position degree : 79.0 tolerance degree : +- 4.0 control lever position degree : 31.0 tolerance degree : +- 4.0 Setting point w/out bumper spring Rated speed rpm : 250 rack travel mm : 4.60 Testing: Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : +- 0.10 rack travel mm : 2.00 Rated speed rpm : 2.00 Rated speed rpm : 410

Rated speed rpm rack travel mm Tolerance mm	: 700 : 9.95 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 1000 : 9.95 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 700 : 8.70 : + 0.10
Rated speed rpm	: 700
Pressure hPa rack travel mm Tolerance mm	: 600 : 0.90 : ← 0.15
Pressure hPa rack travel mm Tolerance mm	: 460 : 0.25 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: -
Rated speed rpm Del. quantity	· : 700
cm3/1000 strokes	: 178.0 : + 1.0
Check tolerance cm3/1000s.	: +- 4.0
BREAKAWAY	······································

Rack travel in mm : 8.95
Rated speed rpm : 930
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

014

LOW IDLE

Rated speed rpm Del. quantity	:		250
cm3/1000 strokes cm3/1000 strokes	:	+-	20.0 3.0
Check tolerance cm3/1000s.	:	+-	6.0
Spreed cm3/1000 strokes Check tolerance	:		5.0
cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.11.96 : ISO 4113

Combination No. : 0 402 640 845

Injection pump

Pump designation : PE12P12OA32OLS7896 EP type number : 0 412 620 847

Governor

Governer design. : RQV350...1050PA1306

Governer no.

: 0 421 814 179

Cust. part No. : 0270749102

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor Power KW : 500.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 077

Inlet press. bar : 2.0

Overflow quantity

min. L/h 170 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 har Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 : **←** 0.50 Tolerance mm

: 12- 1- 5- 9- 8 Firing order

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345

Tolerance

: + 0.30

Check

tolerance "NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.10 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 227.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	
	+	GUIDE SLEEVE POSITION
Spreed cm3/1000 strokes	: 6.0	Rated speed rpm : 1165
Check tolerance cm3/1000s.	: 10.0	Rack travel in mm : 14.10 Tolerance mm : — 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm Tolerance mm Del. quantity	: +- 0.10	Rated speed rpm : 1050 Aneroid pressure hPa : 1300
cm3/1000 strokes		Del. quantity
cm3/1000 strokes	: + 3.0	cm3/1000 strokes : 227.5
Check tolerance cm3/1000s.	: + 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	1	cm3/1000s. : +- 4.0
cm3/1000 strokes	: 8.0	Spreed
Check tolerance	+	cm3/1000 strokes : 6.0
cm3/1000s.	: 12.0	Check tolerance cm3/1000s. : 10.0
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	
	+	CONTROL LEVER
GUIDE SLEEVE TRAV	EL	control lever position degree : 118.0
Rated speed rpm guide sleeve	: 350	tolerance degree : +- 4.0
travel mm	: 1.48	RATED SPEED
Tolerance mm	: 0.20 +	modulational min and 1/ 10
Rated speed rpm guide sleeve	: 1107	rack travel mm : 14.10 Rated speed rpm : 1095 Tolerance 1/min : +- 5
travel mm	: 8.04	Total drive Trimiti
Tolerance mm	: +- 0.15	rack travel mm : 4.00
	+	Rated speed rpm : 1190
Rated speed rpm guide sleeve	: 900	Tolerance 1/min : +- 15
travel mm Tolerance mm	: 5.69 : + 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50
TOTEL ALICE TIME	1	Rated speed rpm : 1300
Rated speed rpm guide sleeve	: 580	
travel mm	: 3.62 +	
Tolerance mm	: ← 0.25	LOW IDLE
Rated speed rpm guide sleeve	: 1204	control lever
travel mm	: 10.00	position degree : 67.0
Tolerance mm	: ← 0.25	tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1300	Testing:
travel mm	: 11.50	Rated speed rpm : 350
Tolerance mm	: + 0.50 +	rack travel mm : 6.20

Tolerance mm	: + 0.10
Rated speed rpm	: 250
CRT mm min.	: > 8.50
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 15.10 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 15.10 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
MEASUREMENT	
Pressure hPa Rated speed rpm	: - : 500
Pressure hPa rack travel mm Tolerance mm	: 300 : 1.20 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 600 : 3.85 : + 0.15
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 210 : < 270
Check speed 1/min Check	: > 190
speed 1/min	: < 290
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1300 : 800
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 226.0 : + 3.0
Check tolerance cm3/1000S.	: +- 6.0

Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 10.0 : 15.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 134.0 : + 1.0 : + 4.0 : 8.0 : 12.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 14.10 : 1095 : + 5

STARTING FUEL DELIVERY	
Rated speed rpm : 100	

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 250.0
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm : 350

Del. quantity
cm3/1000 strokes : 19.0
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : +- 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.96 Test oil : ISO 4113

Combination No. : 0 402 646 989

Injection pump

Pump designation : PE6P120A320RS7230

: -10Y

EP type number : 0 412 626 898

Governor

Governer design. : RQV250...1000PA990K

Governer no. : 0 421 815 274

Gust. part No. : 1250708/2

Customer-spec. information Customer : DAF Motor : WS 315 L Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 14.50Tolerance mm : $\leftarrow 0.50$

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : \leftarrow 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 14.55 Tolerance mm : +- 0.05

....

Del. quantity

cm3/1000 strokes : 274.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000S. : +- 4.0	+ Rated speed rpm : 1310
	+ guide sleeve
Spreed	+ travel mm : 13.50
cm3/1000 strokes : 5.0	+ Tolerance mm : + 0.50
	†
Check tolerance	01775 01 5515 00077701
cm3/1000s. : 9.0	+ GUIDE SLEEVE POSITION
Detect aread man a 250	Dated aread man 1170
Rated speed rpm : 250	Rated speed rpm : 1130
	+ Rack travel in mm : 13.50
Rack travel in mm : 5.20	+ Tolerance mm : +- 1.30
Tolerance mm : + 0.10	T roterance min . 1 - 1.30
Del. quantity	I
cm3/1000 strokes : 17.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	TOLE LOND DELIVERY AT TOLE LOAD OF OF
Check tolerance	+ Rated speed rpm : 980
cm3/1000s. : +- 6.0	+ Aneroid pressure
Spreed	+ hPa : 1500
cm3/1000 strokes : 8.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 274.0
cm3/1000s. : 12.0	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
	+ cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	+ Spreed
WITH GOVERNOR	+ cm3/1000 strokes : 5.0
	+ Check tolerance
	+ cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	†
	†
0.0	
Rated speed rpm : 250	CONTROL LEVED
guide sleeve	CONTROL LEVER
guide sleeve travel mm : 1.53	+
guide sleeve	t control lever
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20	control lever position degree : 120.0
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045	t control lever
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82	control lever position degree : 120.0
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 2.27 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334 guide sleeve travel mm : 3.08 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334 guide sleeve travel mm : 3.08 Tolerance mm : + 0.25 Rated speed rpm : 3.08 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334 guide sleeve travel mm : 3.08 Tolerance mm : + 0.25 Rated speed rpm : 3.08 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275 LOW IDLE control lever
guide sleeve travel mm : 1.53 Tolerance mm : + 0.20 Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.15 Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334 guide sleeve travel mm : 3.08 Tolerance mm : + 0.25 Rated speed rpm : 3.08 Tolerance mm : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 13.55 Rated speed rpm : 1032 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15 rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275 LOW IDLE control lever

Testing:

Rated speed rpm : 250 rack travel mm : 5.20 Tolerance mm : \leftarrow 0.10

rack travel mm : 2.00
Rated speed rpm : 350
Tolerance 1/min : + 20

Rated speed rpm : 150

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 14.55 Tolerance mm : +- 0.05

Rated speed rpm : 600 rack travel mm : 13.30 Tolerance mm : + 0.05

Rated speed rpm : 400 rack travel mm : 13.20 Tolerance mm : + 0.10

Rated speed rpm : 800 rack travel mm : 14.20 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 980
rack travel mm : 9.10
Tolerance mm : + 0.10

Rated speed rpm : 980

Pressure hPa : 760 rack travel mm : 13.15 Tolerance mm : +- 0.05

Pressure hPa : 350

rack travel mm : 10.40 Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500
Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 286.0
cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. : ← 5.0 Spreed

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : Rated speed rpm : 600
Del. quantity

Del. quantity cm3/1000 strokes : 172.0 cm3/1000 strokes : +- 1.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.55
Rated speed rpm : 1032
Tolerance 1/min : +- 8

LOW IDLE

Rated speed rpm : 250
Del. quantity
cm3/1000 strokes : 17.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0

Spreed cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 788

Injection pump

Pump designation : PE8P120A320LS7897 EP type number : 0 412 628 915

Governor

Governer design. : RQV350...1050PA1307

Governer no. : 0 421 814 180

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM442 LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.80
Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.30

Tolerance Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.35 Tolerance mm : +- 0.05

+ Tolerance mm : + 0.2	5
Del. quantity + Rated speed rpm : 1300	
guide sleeve	^
cm3/1000 strokes : + 1.0	
Check tolerance	
cm3/1000s. : +- 4.0 +	
Spreed	
cm3/1000 strokes : 5.0 + Rated speed rpm : 1160	
Check tolerance + Rack travel in mm: 14.3 cm3/1000s. : 9.0 + Tolerance mm : + 1.3	
cm3/1000s. : 9.0 + Tolerance mm : +- 1.3	U
Rated speed rpm : 350	
FULL LOAD DELIVERY AT FULL	LOAD STOP
Rack travel in mm: 5.10 + Rated speed rpm : 1050	
Tolerance mm : + 0.10 + Aneroid pressure	
Del. quantity + hPa : 1800	
cm3/1000 strokes : 20.0 + Del. quantity	0
cm3/1000 strokes : + 3.0 + cm3/1000 strokes : 272.	
Check tolerance + cm3/1000 strokes : +- 1.8	J
cm3/1000S. : +- 6.0	n
Spreed + cm3/1000s. : + 4.0 cm3/1000 strokes : 6.0 + Spreed	J
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(B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : 4.020 Rated speed rpm : 1108 guide sleeve travel mm : 1.48 Rated speed rpm : 1108 Rated speed rpm : 1095 guide sleeve travel mm : 8.04	
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tolerance degree	: +- 4.0	‡	Rated speed rpm Del. quantity	
Testing:		†	cm3/1000 strokes cm3/1000 strokes	
Rated speed rpm	: 350	Ţ	Check tolerance	· • J.0
rack travel mm	: 350 : 5.10	1	cm3/1000s.	: +- 6.0
rack travel mm Tolerance mm	: ← 0.10	+		
	050	†	Aneroid pressure	1000
Rated speed rpm	: 250	†	hPa	: 1800
CRT mm min.	: > 7.50	Ī	Rated speed rpm Del. quantity	
CKT HIII WITE.	. > 7.50	I	cm3/1000 strokes	· 156 በ
Rated speed rpm	: 450	1	cm3/1000 strokes	
, , ,		+	Check tolerance	
			cm3/1000s.	: +- 5.0
TORQUE CONTROL		+		
5-4-1	4050	†	Aneroid pressure	
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TO LET OF THE THE	, +- 0.03	I	cm3/1000 strokes	• 130 n
Rated speed rpm	: 800	Ţ	cm3/1000 strokes	
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Tolerance mm	: +- 0.10	+	cm3/1000s.	
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		†	Rack travel in mm Rated speed rpm	
MEASUREMENT		I	Tolerance 1/min	
HEMOUNEHERT		I	rocerance mini	
Pressure hPa		1		
Rated speed rpm	: 500	+		
,		+	STARTING FUEL DEL	IVERY
Pressure hPa		+		400
rack travel mm		†	Rated speed rpm	: 100
Tolerance mm	: +- 0.05	Ť	Del. quantity	: 270.0
Pressure hPa	: 660	I	cm3/1000 strokes cm3/1000 strokes	
rack travel mm	: 3.90		Check tolerance	10.0
Tolerance mm	: ← 0.20	1	cm3/1000s.	: +- 14.0
		+		
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Rated speed rpm Rated speed rpm		I	LOW IDEE	
nacea apeca i pili	210	Ţ	Rated speed rpm	: 350
Check		+	Del. quantity	
speed 1/min	: > 190	+	cm3/1000 strokes	
Check		+	cm3/1000 strokes	: +- 3.0
speed 1/min	: < 290	+	Check tolerance	
		†	cm3/1000s.	: +- 6.0
PUEL NEL TUENU ALLA	DACTEDICTICS	†	Spreed	. 40
FUEL DELIVERY CHA	KACTERISTICS	†	cm3/1000 strokes Check tolerance	: 6.0
Aneroid pressure		I	cm3/1000s.	: 10.0
hPa	: 1800	1		
· · · · · · ·		'		
D25				

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 978

Injection pump

Pump designation : PE8P12OA32OLS7880 EP type number : 0 412 628 889

Governor

Governer design. : RQV350...1050PA1180

Governer no. : 0 421 814 109

Cust. part No. : 0250742502

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 405.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 638 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.00

D27

Del. quantity Cm3/1000 strokes 282.0 Rated speed rpm 1183 quide sleeve Travel mm 10.00 Tolerance mm 10.00 Toleranc	Tolerance mm	: +- 0.05	+ guide sleeve
cm3/1000 strokes : + 1.0 guide sleeve travel mm : 10.00 Check tolerance cm3/1000s. : + 4.0 GUIDE SLEEVE POSITION Check tolerance cm3/1000s. : 9.0 Rated speed rpm : 1120 Rated speed rpm : 350 Rack travel in mm : 14.00 Rack travel in mm : 5.70 Rack travel in mm : 1050 Rack travel in mm : 5.70 Rated speed rpm : 1050 Rack travel in mm : 5.70 Rated speed rpm : 1050 Rack travel in mm : 5.70 Rated speed rpm : 1050 Rack travel in mm : 5.70 Rated speed rpm : 1050 Rack travel in mm : 5.70 Rated speed rpm : 1050 Rated speed rpm : 1050 Aneroid pressure Rajountity Check tolerance cm3/1000 strokes : 4.0 Cm3/1000 strokes : 282.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 282.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 4.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 4.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 4.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 6.0 cm3/1000 strokes : 6.0 cm3/1000 strokes		: 282.0	+ Tolerance mm : +- 0.25
Tolerance mm : - 0.25	cm3/1000 strokes	: + 1.0	+ guide sleeve
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Spreed		• 40	
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Rated speed rpm : 558	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm : 558	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098
Rated speed rpm : 558 guide sleeve	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098
guide sleeve + Tolerance 1/min : + 15 travel mm : 4.53 Tolerance mm : + 0.25 Rated speed rpm : 608 guide sleeve + Rated speed rpm travel mm : 5.03 Tolerance mm : + 0.25	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8
travel mm : 4.53 Tolerance mm : + 0.25	Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00
Rated speed rpm : 608	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558	control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185
Rated speed rpm : 608 + Rated speed rpm : 1250 guide sleeve + travel mm : 5.03 + Tolerance mm : + 0.25 +	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558	control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15
travel mm : 5.03 +	WITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558	control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15
Tolerance mm : + 0.25	GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25 : 608	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
→ LOW IDLE	GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25 : 608	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm : 820 +	GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 350 : 2.14 : + 0.10 : 1111 : 8.55 : + 0.20 : 558 : 4.53 : + 0.25 : 608	CONTROL LEVER control lever position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1098 Tolerance 1/min : + 8 rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1250

		+
control lever position degree tolerance degree	: 87.0 : +- 4.0	Aneroid pressure hPa : 1300 Rated speed rpm : 600
Testing:		+ Del. quantity + cm3/1000 strokes : 298.5 + cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm	: 5.70	<pre></pre>
Tolerance mm Rated speed rpm		+ Spreed + cm3/1000 strokes : 8.0 + Check tolerance
CRT mm min.	: > 8.90	cm3/1000s. : 12.0
Rated speed rpm	: 400	Aneroid pressure hPa : 1300 Rated speed rpm : 1050
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 225.0
Rated speed rpm rack travel mm Tolerance mm	: 15.00	cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0
Rated speed rpm rack travel mm Tolerance mm	: 600 : 15.00	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 132.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 8.0
MEASUREMENT		Check tolerance : 12.0
Pressure hPa Rated speed rpm		BREAKAWAY
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: +- 0.05 : 1000	Rack travel in mm: 14.00 Rated speed rpm: 1098 Tolerance 1/min: +- 8
Tolerance mm		STARTING FUEL DELIVERY
START CUT-OUT		Rated speed rpm : 100 Del. quantity
Rated speed rpm Rated speed rpm		cm3/1000 strokes : 280.0 cm3/1000 strokes : +- 10.0 Check tolerance
Check	: > 190	+ cm3/1000s. : +- 14.0
speed 1/min Check speed 1/min	: < 290	T

Rated speed rpm	:		350
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	•	+- -	19.0 3.0 6.0
Spreed	•	+-	0.0
cm3/1000 strokes	:		6.0
Check tolerance cm3/1000s.	:		10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05,11,96 Test oil : ISO 4113

Combination No. : 0 402 676 832

Injection pump

Pump designation : PE6P12OA320LS7898

EP type number : 0 412 626 957

Governor

Governer design. : RSV350...1000P0A648

Governer no. : 0 421 833 565

Cust. part No. : 0270748202

Customer-spec. information Customer : MB-NFZ : OM441 A Motor : 170.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 : +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

: 6 Barrel no.

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 11.75

Tolerance mm : + 0.05	- cm3/1000 strokes : 5.0
Del. quantity cm3/1000 strokes : 172.0	- Check tolerance - cm3/1000s. : 9.0
cm3/1000 strokes : + 1.0	
Check tolerance cm3/1000s. : + 4.0	control lever
Spreed	- position degree : 93.0 - tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 9.0	- ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 350	Rated speed rpm : 1030 rack travel mm : 10.70
Rack travel in mm: 5.00 Tolerance mm: + 0.10	Rated speed rpm : 1105 Tolerance 1/min : +- 4 rack travel mm : 4.00
Del. quantity cm3/1000 strokes : 19.0 cm3/1000 strokes : + 3.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0	- - Rated speed rpm : 1031 - rack travel mm : 10.70
Check tolerance cm3/1000s. : 10.0	- Rated speed rpm : 1106 - Tolerance 1/min : +- 4
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
GUIDE SLEEVE POSITION	- - Rated speed rpm : 1032 - rack travel mm : 10.70
Rated speed rpm : 800	- Rated speed rpm : 1107
Rack travel in mm: 0.50 Tolerance mm: +- 0.20	Tolerance 1/min : + 4 rack travel mm : 4.00
governor spring pre-tension click setting x : 4.50	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 1033 - rack travel mm : 10.70
Rated speed rpm : 980 Aneroid pressure hPa : 1000	Rated speed rpm : 1108 Tolerance 1/min : +- 4 rack travel mm : 4.00
Del. quantity cm3/1000 strokes : 172.0 cm3/1000 strokes : + 1.0 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000s. : +- 4.0 +- Spreed	Rated speed rpm : 1034

rack travel mm	: 10.70	† Tolerance mm	: + 0.15
Data dama adama	: 1109	†	
Rated speed rpm		ANEROID/ALTITUDE	
Tolerance 1/min			
rack travel mm	: 4.00	+ COMPENSATOR TEST	
rack travel mm	: 0.85	I	
Tolerance mm		T SETTING	
Rated speed rpm	1700	7 25111149	
rated speed This	: 1500	T Poted speed spe	• 400
Pated speed pam	. 1035	Rated speed rpm Pressure hPa	• 1000
Rated speed rpm rack travel mm	: 1035 : 10.70	rack travel mm	: 11.75
TACK CLAVEC HAR	. 10.70	+ Tolerance mm	: +- 0.05
Rated speed rpm	. 1110	T roter differ han	0.05
Tolerance 1/min		T MEASUREMENT	
rack travel mm	4	T	
LACK LIGACT MILL	. 4.50	T Pressure hPa	
rack travel mm	• 0.85	Rated speed rpm	: 400
	: 0.85 : + 0.55		: 10.05
Tolerance mm Rated speed rpm	· +- 0.33	+ rack travel mm + Tolerance mm	: +- 0.15
waten sheen while	. 1300	I rocerance min	0.13
		Rated speed rpm	: 400
LOW IDLE	· · - · — — — — - · · · · · · · · · · · · · · · · · · 	T Rated speed rpm	. 400
COM INCE		Pressure hPa	: 360
		+ rack travel mm	: 10.60
control lever		+ Tolerance mm	: +- 0.15
position degree	• 73.0	T roter ance min	0.15
tolerance degree	. 73.0	Pressure hPa	: 400
toterance degree	. + 4.0	+ rack travel mm	
Testing:		+ Tolerance mm	: + 0.15
restrig.		I roter arice min	0.15
	750	T	
Rated speed rom	: 350	+	
Rated speed rpm		Ī	
		Ī	
Rated speed rpm rack travel mm Tolerance mm		FUEL DELIVERY CHA	ARACTERISTICS
rack travel mm Tolerance mm	: 5.00 : ← 0.10	FUEL DELIVERY CHA	ARACTERISTICS
rack travel mm Tolerance mm rack travel mm	: 5.00 : + 0.10 : 2.00	+	ARACTERISTICS
rack travel mm Tolerance mm rack travel mm Rated speed rpm	: 5.00 : + 0.10 : 2.00 : 405	Aneroid pressure	
rack travel mm Tolerance mm rack travel mm	: 5.00 : + 0.10 : 2.00 : 405	Aneroid pressure hPa	: 1000
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30	Aneroid pressure hPa Rated speed rpm	: 1000 : 600
rack travel mm Tolerance mm rack travel mm Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 600
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 600 : 170.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : +- 3.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : +- 3.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 600 : 170.0 : +- 3.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: 5.00 : $\leftarrow 0.10$: 2.00 : 405 : $\leftarrow 30$: 100 : > 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 5.00 : $\leftarrow 0.10$: 2.00 : 405 : $\leftarrow 30$: 100 : > 19.50 RY SPRING	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: 5.00 : $\leftarrow 0.10$: 2.00 : 405 : $\leftarrow 30$: 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm	: 5.00 : $\leftarrow 0.10$: 2.00 : 405 : $\leftarrow 30$: 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR	: 5.00 : $\leftarrow 0.10$: 2.00 : 405 : $\leftarrow 30$: 100 : > 19.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00 : 980	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Aneroid pressure hPa	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm	: 5.00 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00 : 980	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 5.00 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : + 0.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : ← 0.05 : 600	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0 : + 1.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : ← 0.05 : 600 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000s. Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Apreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0 : + 1.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.00 : ← 0.10 : 2.00 : 405 : ← 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : ← 0.05 : 600 : 11.75	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0 : + 1.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 5.00 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : + 0.05 : 600 : 11.75 : + 0.05	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 1.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	: 5.00 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : + 0.05 : 600 : 11.75 : + 0.05 : 400	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 1.0
rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIAR rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 5.00 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 19.50 RY SPRING : 2.00 : 980 : 11.75 : + 0.05 : 600 : 11.75 : + 0.05 : 400	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : + 1.0 : + 1.0

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ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1000 : 11.75 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 10.05 : +- 0.15
Rated speed rpm	: 400
Pressure hPa rack travel mm Tolerance mm	: 360 : 10.60 : ← 0.15
Pressure hPa	: 400
rack travel mm Tolerance mm	: 10.95 : + 0.15
Tolerance mm FUEL DELIVERY CHA	: ← 0.15
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: ← 0.15 ARACTERISTICS : 1000
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: ← 0.15 ARACTERISTICS : 1000
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: ← 0.15 ARACTERISTICS : 1000 : 600 : 170.0
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: + 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : + 3.0
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance	: + 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0
Tolerance mm FUEL DELIVERY CH/ Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000strokes Check tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm	: + 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0
Tolerance mm FUEL DELIVERY CH/ Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s trokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: ← 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0 : + 1.0
Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000s.	: ← 0.15 ARACTERISTICS : 1000 : 600 : 170.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0 : 400 : 400 : 125.0

Aneroid pressure

hPa 500 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 132.0 cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

4.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 180.0 cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : **←** 14.0

LOW IDLE

Rated speed rpm : 350

Del. quantity cm3/1000 strokes : 19.0 cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s.6.0 : +-

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.11.96 Edition Test oil : US. 11.96

Combination No. : 0 402 678 831

Injection pump

Pump designation : PE8P120A320LS7901 EP type number : 0 412 628 918

Governor

Governer design. : RSV350...1050P0A651

Governer no. : 0 412 833 568

Cust. part No. : 0270745602

Customer-spec. information Customer : MB-NFZ : 0M442LA Motor Power KW : 297.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance : +- 0.30

Check

tolerance *NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.80

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 213.0

cm3/1000 strokes : +- 1.5

Check tolerance cm3/1000s. : + 4.5	RATED SPEED
Spreed cm3/1000 strokes : 5.0	rack travel mm : 12.80 Rated speed rpm : 1075 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : 9.0	rack travel mm : 4.00
Rated speed rpm : 350	Rated speed rpm : 1145 Tolerance 1/min : +- 15
1	rack travel mm : 0.85
Rack travel in mm: 5.50 + Tolerance mm: + 0.10 + Del. quantity	Tolerance mm : +- 0.55 Rated speed rpm : 1400
cm3/1000 strokes : 19.0	
cm3/1000 strokes : \leftarrow 3.0 $+$	
Check tolerance + 6.0 +	LOW IDLE
Spreed + cm3/1000 strokes : 8.0 +	control lever
Check tolerance	position degree : 70.0
cm3/1000s. : 12.0	tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	Testing:
WITH GOVERNOR	Rated speed rpm : 350
+	rack travel mm : 5.50
+	Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00
Rated speed rpm : 800	Rated speed rpm : 400 Tolerance 1/min : +- 30
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 100
	CRT mm min. : > 19.50
FULL LOAD DELIVERY AT FULL LOAD STOP	SET IDLE AUXILIARY SPRING
Rated speed rpm : 1050 + Aneroid pressure	rack travel mm : 2.00
hPa : 1200 +	
Del. quantity +	TORQUE CONTROL
cm3/1000 strokes : 213.0 + cm3/1000 strokes : + 1.5 +	Rated speed rpm : 1050
Check tolerance	rack travel mm : 13.80
cm3/1000s. : + 4.5	Tolerance mm : +- 0.05
Spreed cm3/1000 strokes : 5.0	Rated speed rpm : 600 rack travel mm : 14.00
Check tolerance + cm3/1000s. : 9.0 +	Tolerance mm : +- 0.10
cm3/1000s. : 9.0	roterance num . +- 0.10
<u> </u>	ANEROID/ALTITUDE
CONTROL LEVER	COMPENSATOR TEST
control lever	
position degree : 90.0	
tolerance degree : + 4.0 +	MEASUREMENT

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Pressure hPa	:	-
Rated speed rpm	:	500

Pressure hPa : 250 rack travel mm : 0.35 Tolerance mm : + 0.05

Pressure hPa : 800 rack travel mm : 3.25 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

1200

Aneroid pressure hPa

Rated speed rpm : 600
Del. quantity
cm3/1000 strokes : 221.0
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000S. : +- 4.5
Spreed

cm3/1000 strokes : 8.0 Check tolerance

cm3/1000s. : 12.0

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 143.0
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0
Spreed
cm3/1000 strokes : 8.0

BREAKAWAY

Rack travel in mm : 12.80
Rated speed rpm : 1075
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 250.0
cm3/1000 strokes : +- 15.0
Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm Del. quantity	: 350
cm3/1000 strokes	: 19.0 : +- 3.0
Check tolerance cm3/1000s.	: +- 6.0
Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.11.96 Test oil : ISO 4113

Combination No. : 0 402 678 834

Injection pump

Pump designation : PE8P120A320LS7903 EP type number : 0 412 628 920

Governor

Governer design. : RSV600...950POA663

Governer no. : 0 421 833 580

Cust. part No. : 027 074 4602

Customer-spec. information Customer : MB-NFZ : 0M442A Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 170
Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315

Tolerance Check

: +- 0.30

tolerance *NW : +- 0.50

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance *NW : +- 0.50

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 930

Rack travel in mm: 13.40 Tolerance mm: + 0.05	Check tolerance cm3/1000s. : 9.0
Del. quantity cm3/1000 strokes : 201.0	CONTROL LEVER
cm3/1000 strokes : + 1.0	control lever position degree : 88.0
Check tolerance cm3/1000s. : +- 4.0	tolerance degree : +- 4.0
Spreed cm3/1000 strokes : 5.0	ASSEMBLY GOVERNOR SETTING
Check tolerance cm3/1000S. : 9.0	Rated speed rpm : 970 rack travel mm : 12.40
Rated speed rpm : 600	Rated speed rpm : 1035 Tolerance 1/min : + 4 rack travel mm : 4.00
Rack travel in mm: 4.30 + Tolerance mm: + 0.10 +	rack travel mm : 0.85 Tolerance mm : +- 0.55
Del. quantity cm3/1000 strokes : 18.0	Rated speed rpm : 1100
cm3/1000 strokes : + 3.0 + Check tolerance cm3/1000s. : + 6.0 +	Rated speed rpm : 971 rack travel mm : 12.40
Spreed + cm3/1000 strokes : 8.0 +	Rated speed rpm : 1036 Tolerance 1/min : +- 4
Check tolerance cm3/1000s. : 12.0	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Tolerance mm : + 0.55
WITH GOVERNOR	Rated speed rpm : 972 rack travel mm : 12.40
GUIDE SLEEVE POSITION	Rated speed rpm : 1037 Tolerance 1/min : +- 4 rack travel mm : 4.00
Rated speed rpm : 800	rack travel mm : 0.85
Rack travel in mm: 0.50 + Tolerance mm: + 0.20	Tolerance mm : +- 0.55 Rated speed rpm : 1100
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 973 rack travel mm : 12.40
Rated speed rpm : 930 Aneroid pressure	Rated speed rpm : 1038 Tolerance 1/min : +- 4
hPa : 1000 Del. quantity 201.0	rack travel mm : 4.00
cm3/1000 strokes : 201.0 + cm3/1000 strokes : + 1.0 + Check tolerance	Tolerance mm : 0.65
cm3/1000s. : +- 4.0	Rated speed rpm : 974 rack travel mm : 12.40
cm3/1000 strokes : 5.0	Rated speed rpm : 1039

Tolerance 1/min rack travel mm		+ MEASUREMENT	
		+ Pressure hPa	: 470 : 500 : 0.70
rack travel mm		+ Rated speed rpm	: 500
Tolerance mm	: +- 0.55	+ rack travel mm	: 0.70
Rated speed rpm	: 1100	rack travel mm Tolerance mm	: + 0.05
Rated speed rpm	: 975	+ Rated speed rpm	: 500
rack travel mm		+	
		+ Pressure hPa	: 630
Rated speed rpm	: 1040	+ rack travel mm	: 1.75
Tolerance 1/min	: +- 4	+ Tolerance mm	: +- 0.15
rack travel mm	: 4.00	}	
		+	
rack travel mm	: 0.85	+	
Tolerance mm	: +- 0.55	+	
		+ FUEL DELIVERY CHA	RACTERISTICS
LOW IDLE		Aneroid pressure	
		+ hPa	: 1000
		+ Rated speed rpm	
control lever		+ Del. quantity	
position degree	: 74.0	cm3/1000 strokes	: 208.0
tolerance degree		cm3/1000 strokes	
	, , , , ,	+ Check tolerance	
Testing:		+ cm3/1000s.	: + 5.0
· · - + · · · · · · · · · · ·		Spreed	•
Rated speed rpm	: 600	+ cm3/1000 strokes	: 8.0
rack travel mm		+ Check tolerance	_
Tolerance mm		+ cm3/1000s.	: 12.0
-		+	· – · -
rack travel mm	: 2.00	+ Aneroid pressure	
Rated speed rpm		- hPa	: 1000
Tolerance 1/min		+ Rated speed rpm	: 500
	-	+ Del. quantity	
SET IDLE AUXILIAR	RY SPRING		: 142.0
		+ cm3/1000 strokes	
rack travel mm	: 2.00	+ Check tolerance	
		- cm3/1000s.	: +- 4.0
			_
TORQUE CONTROL		· · · · · · · · · · · · · · · · · · ·	: 8.0
·		+ Check tolerance	
Rated speed rpm	: 930	+ cm3/1000s.	: 12.0
rack travel mm	: 13.40	+	
Tolerance mm	: 0.05	+	
		+	
Rated speed rpm		+	
rack travel mm	: 13.70	+ STARTING FUEL DEL	IVERY
Tolerance mm	: +- 0.10	+	
		+ Rated speed rpm	: 100
ANEROID/ALTITUDE		+ cm3/1000 strokes	: 190.0
COMPENSATOR TEST		+ cm3/1000 strokes	: +- 10.0
		+ Check tolerance	
		† cm3/1000s.	: +- 14.0
SETTING		†	
Rated speed rpm	: 500	Ī	
Pressure hPa	: -		
	•	1 ON THE	

MFA	21	IDE	ME	NT

Pressure hPa	:	470
Rated speed rpm	:	500
rack travel mm	:	0.70
Tolerance mm	: +	-0.05
Rated speed rpm	:	500

FUEL DELIVERY CHARACTERISTICS

TOLL VELIVERY CHA	ייתי	C 1 L	101100
Aneroid pressure			
hPa	:		1000
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		208.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0
Aneroid pressure			
hPa	:	•	1000
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		142.0
cm3/1000 strokes	:	+	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
Spreed			
cm3/1000 strokes	:		8.0
Check tolerance			

STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity		
cm3/1000 strokes	:	190.0
cm3/1000 strokes	: +	- 10.0
Check tolerance		
cm3/1000s.	: +	- 14.0

LOW IDLE

Rated speed rpm	:	600
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: +-	18.0 3.0
cm3/1000s.	: +-	6.0
Spreed cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.11.96 Test oil : ISO 4113

Combination No. : 0 402 736 862AA

Injection pump

Pump designation : PES6P110A120RS7214 EP type number : 0 412 716 805

Governor

Governer design. : RQV350...1200PA964

: -30K

Governer no. : 0 421 815 432

Cust. part No. : 3282470

Customer—spec. information
Customer : CUMMINS
Motor : 6CTA-A
Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 120 Tolerance L/h : + 5.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 23.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 6.00

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

	+ Rated speed rpm : 372
Rack travel in mm : 13.90	+ Rated speed rpm : 372 + guide sleeve
Tolerance mm : + 0.05	travel mm : 2.75
, , , , , , , , , , , , , , , , , , ,	+ Tolerance mm : + 0.25
Del. quantity	+
cm3/1000 strokes : 186.0	+ Rated speed rpm : 460
	+ guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 3.76
	Tolerance mm : + 0.25
Check tolerance	+
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1630
On a soul	+ guide sleeve
Spreed cm3/1000 strokes : 5.0	+ travel mm : 13.50 + Tolerance mm : + 0.50
cm5/1000 strakes : 5.0	Tolerance mm : + 0.50
Check tolerance	
cm3/1000s. : 9.0	+ GUIDE SLEEVE POSITION
	+
Rated speed rpm : 300	+ Rated speed rpm : 1400
	+
	+ Rack travel in mm : 12.90
Rack travel in mm: 6.50	+ Tolerance mm : + 1.30
Tolerance mm : + 0.10	†
Del. quantity	FULL LOAD DELTUEDY AT FULL LOAD CTOD
cm3/1000 strokes : 43.0 cm3/1000 strokes : +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	Rated speed rpm : 900
cm3/1000s. : +- 5.0	+ Aneroid pressure
Spreed	+ hPa : 1000
cm3/1000 strokes : 8.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 186.0
cm3/1000s. : 12.0	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
4 -1	+ cm3/1000s. : + 4.0
(B) SETTING OF INJECTION PUMP	+ Spreed
WITH GOVERNOR	+ cm3/1000 strokes : 5.0 + Check tolerance
	+ cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	1 (1137 10003 7.0
OOJOE OCCUPE THAT	1
Rated speed rpm : 300	+
guide sleeve	+ CONTROL LEVER
travel mm : 1.76	+
Tolerance mm : + 0.25	+ control lever
200	position degree : 60.0
Rated speed rpm : 1269	tolerance degree : +- 4.0
guide sleeve travel mm : 9.75	control lever
Tolerance mm : + 0.25	position degree : 112.0
Total ance min	tolerance degree : +- 4.0
Rated speed rpm : 829	+
guide sleeve	+ RATED SPEED
travel mm : 6.79	+
Tolerance mm : +- 0.25	rack travel mm : 13.65
	+ Rated speed rpm : 1150
Rated speed rpm : 322	Tolerance 1/min : +- 5
guide sleeve	t made through the control of the co
travel mm : 1.98	+ rack travel mm : 4.00
Tolerance mm : +- 0.25	+ Rated speed rpm : 1360 + Tolerance 1/min : +- 15
	+ Tolerance 1/min : +- 15

rack travel mm Tolerance mm Rated speed rpm	: ← 0.50	† † †	Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 8.50 : + 0.20 : 1100
LOW IDLE	······	 	Pressure hPa rack travel mm Tolerance mm	: 14.30
control lever position degree tolerance degree	: 66.0 : + 4.0	<u> </u>	Pressure hPa rack travel mm Tolerance mm	: 340 : 10.40 : + 0.05
control lever position degree tolerance degree	: 14.0 : +- 4.0	†	START CUT-OUT	. \ 100
Testing:		Ŧ	Rated speed rpm Rated speed rpm	: < 220
Rated speed rpm rack travel mm Tolerance mm	: 6.50	† †	Check speed 1/min Check speed 1/min	
Rated speed rpm	: 200	‡		
CRT mm min.	: > 7.65	<u>†</u>	FUEL DELIVERY CHA	ARACTERISTICS
Rated speed rpm	: 423	+	Aneroid pressure hPa	: 1000
TORQUE CONTROL		Ŧ	Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.90 : + 0.05	1 +	cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.90	† †	Spreed cm3/1000 strokes Check tolerance	
		‡	cm3/1000s.	: 12.0
Rated speed rpm rack travel mm Tolerance mm	: 14.60	† † †	Aneroid pressure hPa Rated speed rpm Del. quantity	
ANEROID/ALTITUDE COMPENSATOR TEST			cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000S.	: + 3.0
SETTING		‡	Aneroid pressure	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 1200 : 14.60 : + 0.05	+ + +	Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 104.0
MEASUREMENT		Ŧ	cm3/1000s.	: +- 4.0
Pressure hPa	: -	Į		

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BREAKAWAY

Rack travel in mm : 13.65 Rated speed rpm : 1150 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 11.20 Del. quantity cm3/1000 strokes : 155.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : \leftarrow 25.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 43.0

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : + 5.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.10.96 Test oil : ISO 4113

Combination No. : 0 402 746 605

Injection pump

Pump designation : PES6P120A320RS7324 EP type number : 0 412 726 905

Governor

Governer design. : RQV300...920/1200PA1

: 260

Governer no. : 0 421 814 170

Cust. pert No. : 51.11103-7461

Customer-spec. information

Customer : MAN

Motor : D0826LF11/LFL03

Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 087

Inlet press. bar : 3.0
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 105 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 207.0 Tolerance bar : +- 3.0 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Check

tolerance mm : +- 0.10

Rack travel in mm : 12.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery blocking

Tolerance : + 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00

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Tolerance mm : + 0.10	- guide sleeve
	- travel mm : 1.64
Del. quantity cm3/1000 strokes : 70.0	- Tolerance mm : +- 0.20
CIRCY TOOC SET ONES . TO.O	- Rated speed rpm : 1256
cm3/1000 strokes : + 8.0	guide sleeve
	- travel mm : 10.36
Check tolerance	- Tolerance mm : — 0.15
cm3/1000s. : +- 11.0	- - Rated speed rpm : 1238
Spreed	- guide sleeve
-	- travel mm : 10.09
cm3/1000 strokes : 3.5	- Tolerance mm : +- 0.25
Check tolerance	- - Rated speed rpm : 660
cm3/1000s. : 9.0	- Mateu speed ipm . 000 - guide sleeve
J. 1999	- travel mm : 5.62
Rated speed rpm : 1000	- Tolerance mm : +- 0.25
	Poted speed pro-
Rack travel in mm: 12.45	- Rated speed rpm : 1460 - guide sleeve
Tolerance mm : +- 0.05	- travel mm : 13.50
	- Tolerance mm : +- 0.50
Del. quantity	•
cm3/1000 strokes : 202.0	- GUIDE SLEEVE POSITION
cm3/1000 strokes : + 1.0	- 40172 322242 1 00111014
	Rated speed rpm : 1330
Check tolerance	Daala taraari da maraari 44 /5
cm3/1000s. : +- 4.0	- Rack travel in mm : 11.45 - Tolerance mm : +- 1.30
Spreed	. Total and a min . The same and a same a
cm3/1000 strokes : 8.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance + cm3/1000s. : 12.0 +	Rated speed rpm : 1000
	Aneroid pressure
Rated speed rpm : 300	hPa : 1500
†	Del. quantity
Rack travel in mm: 5.70	cm3/1000 strokes : 202.0 cm3/1000 strokes : +- 1.0
Tolerance mm : + 0.10	Check tolerance
Del. quantity	cm3/1000s. : +- 4.0
cm3/1000 strokes : 36.0	Spreed
cm3/1000 strokes : +- 3.0 +- Check tolerance +-	cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : +- 6.0	cm3/1000s. : 12.0
Spreed	
cm3/1000 strokes : 8.0	
Check tolerance cm3/1000s. : 14.0	CONTROL LEVER
cm3/1000s. : 14.0 +	CONTROL LEVER
4	control lever
(B) SETTING OF INJECTION PUMP	position degree : 302.0
WITH GOVERNOR	tolerance degree : +- 4.0
<u> </u>	RATED SPEED
GUIDE SLEEVE TRAVEL	
+	rack travel mm : 11.45
Rated speed rpm : 300 +	Rated speed rpm : 1245

Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 4.00 : 1330 : ← 15 : 0.25	+++++++++++++++++++++++++++++++++++++++	Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 8.10 : + 0.20 : 500 : 140 : 8.45 : + 0.05
LOW IDLE		‡	rack travel mm Tolerance mm	: 11.50
position degree tolerance degree Testing:	: 261.0 : + 4.0	+	START CUT-OUT Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.70 : + 0.10	+++++++++++++++++++++++++++++++++++++++	Check speed 1/min Check speed 1/min	
CRT mm min.	: > 8.40	+	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 360	+ + +	Aneroid pressure hPa Rated speed rpm	: 1500
TORQUE CONTROL		<u></u>	Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 12.45 : +- 0.05	-	cm3/1000 strokes Check tolerance cm3/1000s.	: 3.0
Rated speed rpm rack trave! mm Tolerance mm	: 1200 : 12.45 : +- 0.10	+	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 750
Rated speed rpm rack travel mm Tolerance mm	: 12.45	+ + + + +	cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	
ANEROID/ALTITUDE COMPENSATOR TEST		 	Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 500
SETTING		-	cm3/1000 strokes cm3/1000 strokes	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.45 : ← 0.05	 	Check tolerance cm3/1000s.	: +- 4.0
MEASUREMENT	2.30	+++++++++++++++++++++++++++++++++++++++	BREAKAWAY	

Rack travel in mm : 11.45
Rated speed rpm : 1245
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 189.0 cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 36.0

cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 14.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.11.96 Test oil : ISO 4113

Combination No. : 0 402 796 814

Injection pump

Pump designation : PES6P120A720RS7367

EP type number : 0 412 726 932

Governor

Governer design. : RE30

Governer no. : 0 421 890 026

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE Motor : 8460.41.6000

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

Check

tolerance *NW : + 0.40

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1:

Setting point (P, R and H pump)

CRT mm : 3.100 : 13.00 Tolerance mm : +/- 0.05 Check

tolerance mm : +/- 0.10

Check value (P, R and H pump)

: 1.700 : 6.15 Uact V CRT mm : +/- 0.25 Tolerance mm Check

tolerance mm : +/- 0.30

Setting point (amua M)

: 3.100 : 12.50 Uact V CRT mm Tolerance mm : +/- 0.05 Check

tolerance mm : +/- 0.10

Check value (qmuq M)

Uact V 1.700 5.50 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.30

Stop position

Uact V : Value with

> deenergised adjusting magnet and control rod in

stop position.

CRT mm : 0.75 : +/- 0.25 Tolerance mm Check

: +/- 0.35 tolerance mm

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60 Amplitude V : Tolerance V : +/- 0.6

Check

tolerance V : -/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 1050 Uact V : 2.900

Del. quantity

cm3/1000 strokes : 296.0 cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +-4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 500 Uact V 2.690 Del. quantity

cm3/1000 strokes : 238.0 cm3/1000 strokes : +- 3.0Check tolerance

cm3/1000s.: +- 6.0

TEST POINT L1

Rated speed rpm : 275 1.640 Uact V Tolerance Volt : +- 0.030

Check tolerance

: +- 0.060Volt

Del. quantity cm3/1000 strokes :

24.0 cm3/1000 strokes : + 3.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.11.96 Test oil : ISO 4113

Combination No. : 0 403 456 122A

Injection pump

Pump designation : PES6MW100/321RS1201

EP type number : 0 413 406 190

Governor

Governer design. : RQ250/1200MW84-13 Governer no. : 0 420 082 068

Cust. part No. : 3-7561

Customer-spec. information

Customer : MAN

Motor : D 0826 LOH13

Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 15.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.00 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 123.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed cm3/1000 strokes : 3.5	guide sleeve travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : 6.0	Rated speed rpm : 1059
+	guide sleeve
Rated speed rpm : 250	travel mm : 7.23 Tolerance mm : 0.10
Rack travel in mm: 5.70	
Tolerance mm : + 0.10 Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 22.0 +	Rated speed rpm : 600
cm3/1000 strokes : +- 2.0 +- Check tolerance +-	Rack travel in mm : 16.50
cm3/1000s. : $+$ 4.5	Tolerance mm : +- 0.80
Spreed + cm3/1000 strokes : 3.5 +	
Check tolerance cm3/1000s. : 5.5	FULL LOAD DELIVERY AT FULL LOAD STOP
CM3/10005. : 3.3	Rated speed rpm : 1000
+	Aneroid pressure
(B) SETTING OF INJECTION PUMP	hPa : 1000
WITH GOVERNOR +	Del. quantity cm3/1000 strokes : 123.0
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm : 250 +	cm3/1000S. : +- 3.0 Spreed
guide sleeve	cm3/1000 strokes : 3.5
travel mm : 1.66	Check tolerance
Tolerance mm : + 0.10	cm3/1000s. : 6.0
Rated speed rpm : 1257	
guide sleeve +	
travel mm : 7.61 + Tolerance mm : + 0.10 +	CONTROL LEVER
Tolerance mm : + 0.10	control lever
Rated speed rpm : 1200	position degree : 102.0
guide sleeve +	tolerance degree : +- 4.0
travel mm : 7.30 +	DATES 00555
Tolerance mm : +- 0.10	RATED SPEED
Rated speed rpm : 912	rack travel mm : 10.40
guide sleeve	Rated speed rpm : 1253
travel mm : 7.08 + Tolerance mm : + 0.10 +	Tolerance 1/min : + 8
	rack travel mm : 4.00
Rated speed rpm : 359	Rated speed rpm : 1305 Tolerance 1/min : +- 15
guide sleeve + travel mm : 3.70 +	roterance minim . +- 15
Tolerance mm : + 0.10	rack travel mm : 0.50
Rated speed rpm : 520 +	Tolerance mm : +- 0.50 Rated speed rpm : 1400
guide sleeve	
travel mm : 7.00 +	
Tolerance mm : + 0.10	LOW IDLE
Rated speed rpm : 1380	

		†		
control lever position degree tolerance degree	: 73.0 : + 4.0	† † †	FUEL DELIVERY CHA	RACTERISTICS
Testing:		Ī	Aneroid pressure hPa Rated speed rpm	: 1000
Rated speed rpm rack travel mm Tolerance mm	: 5.70	<u> </u>	Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: 123.0 : + 1.5
Rated speed rpm	: 150	1	cm3/1000s.	: +- 4.0
CRT mm min.	: > 7.00	-	cm3/1000 strokes Check tolerance	· -
TORQUE CONTROL			cm3/1000s.	: 7.0
Rated speed rpm rack travel mm Tolerance mm	: 12.00 : +- 0.05	+	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 119.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.20 : + 0.10	† †	cm3/1000 strokes Check tolerance cm3/1000S.	: + 1.5 : + 4.0
Rated speed rpm rack travel mm Tolerance mm	: 11.40		Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	
ANEROID/ALTITUDE COMPENSATOR TEST		+++++++++++++++++++++++++++++++++++++++	cm3/1000 strokes Check tolerance cm3/1000s.	
SETTING		‡	BREAKAWAY	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT	: 1000 : 12.20	+++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1253
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.35 : + 0.05	† † †	STARTING FUEL DEL	: 100
Rated speed rpm	: 500	‡	rack travel mm Tolerance mm	: + 0.50
Pressure hPa rack travel mm Tolerance mm	: 350 : 11.60 : + 0.15	† + +	Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 70.0 : + 10.0 : + 13.0
Pressure hPa rack travel mm Tolerance mm	: 10.65	+ + +	LOW IDLE	· · · · · · · · · · · · · · · · · · ·
		T	COM INCL	

Rated speed rpm	:		250
Del. quantity cm3/1000 strokes cm3/1000 strokes	:	4	22.0
Check tolerance	•	+	2.0
cm3/1000s.	:	+	4.5
Spreed cm3/1000 strokes Check tolerance	:		3.5
cm3/1000s.	:		5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.11.96 Test oil : ISO 4113

Combination No. : 0 401 876 345

Injection pump

Pump designation : PE6P120B320RS3301 EP type number : 0 411 826 819

Governor

Governer design. : RSV250...1100P0A656

Governer no. : 0 421 833 574

Cust. part No. : 3826519 PO1 v. 10/96

Customer—spec. information
Customer : PENTA
Motor : TAMD 102 D
Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 8.10 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.10

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 275.0	+ Check tolerance cm3/1000s.	:
cm3/1000 strokes	: + 1.0		_
Check tolerance cm3/1000s.	: + 4.0	CONTROL LEVER	
Cunnad		+ control lever	
Spreed cm3/1000 strokes	: 7.0	position degreetolerance degree	
Check tolerance		control lever	
cm3/1000s.	: 11.0	position degreetolerance degree	:
Rated speed rpm	: 250	+ RATED SPEED	•
		T KATED SPEED	
Rack travel in mm		+ rack travel mm	
Tolerance mm	: ← 0.10	+ Rated speed rpm	:
el. quantity	. 2/ 0	† Tolerance 1/min	
m3/1000 strokes m3/1000 strokes		† + rack travel mm	
heck tolerance	: 2.3	+ Rated speed rpm	
m3/1000s.	: +- 5.0	Tolerance 1/min	
preed		+ Total and Thinki	٠
m3/1000 strokes	: 3.0	rack travel mm	:
heck tolerance		+ Tolerance mm	
m3/1 00 0s.	: 6.0	Rated speed rpm	:
B) SETTING OF INJ ITH GOVERNOR	ECITON POMP	Rated speed rpm	-
GUIDE SLEEVE POSIT	TION	- + LOW IDLE	
Rated speed rpm	: 800	t control lever	
deca opeca (piii	. 555	position degree	:
ck travel in mm	: 0.50	tolerance degree	:
olerance mm	: + 0.20	+	
•		+ control lever	
overnor spring		+ position degree	•
re-tension	. 225	† tolerance degree	:
ick setting x	: 2.25	Setting point w/ou	rt
JLL LOAD DELIVERY	AT FULL LOAD STOD	- + Rated speed rpm	•
APP MANIA APPWAR()	AT LATE FORD STOL		•
		rack travel mm	:
	: 1100	rack travel mm	:
neroid pressure	: 1100		:
neroid pressure Pa		rack travel mm Testing:	:
neroid pressure Pa el. quantity	: 1100 : 1500	rack travel mm Testing: Rated speed rpm	:
Aneroid pressure nPa Del. quantity cm3/1000 strokes	: 1100 : 1500 : 275.0	rack travel mm Testing: Rated speed rpm rack travel mm	•• •• •• ••
Aneroid pressure nPa Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1100 : 1500	rack travel mm Testing: Rated speed rpm	: : : :
neroid pressure Pa el. quantity m3/1000 strokes	: 1100 : 1500 : 275.0	rack travel mm Testing: Rated speed rpm rack travel mm	: : : : : :
neroid pressure Pa el. quantity m3/1000 strokes m3/1000 strokes neck tolerance	: 1100 : 1500 : 275.0 : + 1.0	rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm	
eroid pressure la l. quantity 3/1000 strokes 3/1000 strokes eck tolerance 3/1000s.	: 1100 : 1500 : 275.0 : + 1.0 : + 4.0	rack travel mm Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm	** ** ** ** ** **

Check tolerance cm3/1000s.	: 11.0		
CONTROL LEVER			
control lever position degree tolerance degree	: 44.0 : +- 4.0		
control lever position degree tolerance degree	: 94.0 : +- 4.0		
RATED SPEED			
rack travel mm Rated speed rpm Tolerance 1/min	: 12.10 : 1145 : +- 5		
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1230 : +- 15		
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1350		
rack travel mm Rated speed rpm	: 4.00 : 1240		
LOW IDLE			
control lever position degree tolerance degree	: 69.0 : + 4.0		
control lever position degree tolerance degree	: 19.0 : + 4.0		
Setting point w/out bumper spring			
Rated speed rpm rack travel mm	: 250 : 5.70		
Testing:			
Rated speed rpm rack travel mm Tolerance mm	: 250 : 6.20 : ← 0.10		
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 370 : +- 30		

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 13.10 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.10
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 8.10
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1120
rack travel mm : 4.70
Tolerance mm : ← 0.15

Pressure hPa : 160 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500
Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 299.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
cm3/1000 strokes : 8.0
Check tolerance

: 12.0

Aneroid pressure

nra : -Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 148.0 cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : :- 4.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : +-0.50

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 24.0 cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. : **←** 5.0 Spreed cm3/1000 strokes : 3.0 Check tolerance : cm3/1000s. 6.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P120A320RS8520 EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

Governer no. : 0 421 815 969

Cust. part No. : 1310222/2

Customer-spec. information Customer : DAF

: XF 355 M Motor Power KW : 355.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C temp. °C 40 : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 : + 0.05 Prestroke mm Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: +- 0.50 tolerance *NW

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 14.15

Tolerance mm : \leftarrow 0.05

F04

		+ Rated speed rpm : 1123
Del. quantity cm3/1000 strokes	: 353.0	Rack travel in mm: 13.20 Tolerance mm: + 2.70
cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000s.	: + 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed		+ Rated speed rpm : 980 + Aneroid pressure
cm3/1000 strokes	: 6.0	hPa : 1500 + Del. quantity
Check tolerance cm3/1000s.	: 12.0	+ cm3/1000 strokes : 353.0 + cm3/1000 strokes : +- 1.0
Rated speed rpm	: 275	+ Check tolerance + cm3/1000s. : + 5.0 + Spreed
Rack travel in mm	• 4.50	+ cm3/1000 strokes : 6.0 + Check tolerance
Tolerance mm Del. quantity		cm3/1000s. : 12.0
cm3/1000 strokes		Ţ
cm3/1000 strokes Check tolerance		CONTROL LEVER
cm3/1000s.	: + 6.0	†
Spreed cm3/1000 strokes	: 8.0	+ control lever + position degree : 118.0
Check tolerance		tolerance degree : +- 4.0
cm3/1000s.	: 13.0	RATED SPEED
(B) SETTING OF IN-	JECTION PUMP	rack travel mm : 13.15 Rated speed rpm : 1050
		Tolerance 1/min : + 5
GUIDE SLEEVE TRAVE	EL	+ rack travel mm : 4.00 + Rated speed rpm : 1160
Rated speed rpm guide sleeve	: 275	Tolerance 1/min : + 15
travel mm	: 2.04	rack travel mm : 0.70 Tolerance mm : + 0.70
Tolerance mm	: +- 0.20	+ Tolerance mm : + 0.70 + Rated speed rpm : 1275
Rated speed rpm guide sleeve		+
travel mm	: 10.06 : + 0.15	t
Tolerance mm		+ LOW IDLE
Rated speed rpm	: 399	+
guide sleeve	; 3.39	+ control lever + position degree : 73.0
travel mm Tolerance mm	: + 0.25	tolerance degree : +- 4.0
Rated speed rpm	: 1260	+ Testing:
guide sleeve	. 47.50	Pated aread non- : 375
guide sleeve travel mm Tolerance mm	: 13.5U · + 0.50	Rated speed rpm : 275
roterance mm	0.00	rack travel mm : 4.50 Tolerance mm : +- 0.10
GUIDE SLEEVE POSIT	TION	Rated speed rpm : 175
		1

CRT mm min.	: > 6.00
Rated speed rpm	: 300
TORQUE CONTROL	
Rated speed rpm	: 980
rack travel mma	: 14.15
Tolerance mma	: + 0.05
Rated speed rpm	: 800
rack travel mm	: 13.85
Tolerance mm	: + 0.10
Rated speed rpm	: 750
rack travel mm	: 13.45
Tolerance mm	: + 0.05
Rated speed rpm	: 700
rack travel mm	: 13.05
Tolerance mm	: ← 0.10
Rated speed rpm	: 600
rack travel mm	: 12.50
Tolerance mm	: +- 0.10
Rated speed rpm	: 500
rack travel mm	: 12.25
Tolerance mm	: + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 980
Pressure hPa	: 1500
rack travel mm	: 14.15
Tolerance mm	: +- 0.05
MEASUREMENT	
Pressure hPa	: -
Rated speed rpm	: 980
rack travel mm	: 8.95
Tolerance mm	: + 0.10
Rated speed rpm	: 980
Pressure hPa	: 750
rack travel mm	: 12.90
Tolerance mm	: ← 0.05
Pressure hPa	: 380
rack travel mm	: 10.30
Tolerance mm	: + 0.10

FUEL DELIVERY CHARACTERI	STICS
Aneroid pressure hPa : 150 Rated speed rpm : 75 Del. quantity	00 50
cm3/1000 strokes : 3: cm3/1000 strokes : +- Check tolerance	51.0 2.0
cm3/1000s. : +- Spreed	6.0
Check tolerance	10.0 15.0
Aneroid pressure	U, C
hPa : 60 Rated speed rpm : 60	_ 00
Del. quantity cm3/1000 strokes : 20 cm3/1000 strokes : +-	00.0 1.0
Check tolerance cm3/1000s. : +- Spreed	5.0
•	10.0
	15.0
BREAKAWAY	
Rack travel in mm : 13 Rated speed rpm : 105 Tolerance 1/min : +	3.15 50 5

LOW IDLE

Rated speed rpm	:		275
Del. quantity cm3/1000 strokes	:		18.0
cm3/1000 strokes	:	+	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 946 014

Injection pump

Pump designation : PES6P120A720LS8037

EP type number : 0 412 926 024

Governor

Governer design. : RQV250...1050PA1236K

Governer no. : 0 421 815 970

Cust. part No. : 1370101

Customer-spec. information Customer : SCANIA : DSC1202 Motor

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C 40 Tolerance °C : ← 2.0

Overflow valve : 2 417 413 082

Iniet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 85 Tolerance L/h : ← 10.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

2.0 x inside diameter: x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.40 Tolerance mm : + 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery blocking

*NW after s.o.d. : 180.00 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 775

Rack travel in mm : 14.05 Tolerance mm : + 0.05 Del. quantity cm3/1000 strokes : 330.0 Cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 10.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 14.0 Rated speed rpm : 250	· ┣ ╋╋╋╋
cm3/1000 strokes : 330.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 10.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 14.0 Rated speed rpm : 250	 +++++++++++++++++++++++++++++++++++
Check tolerance cm3/1000s. : + 10.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 14.0 Rated speed rpm : 250	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
<pre>cm3/1000s. : + 10.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 14.0 Rated speed rpm : 250</pre>	
Check tolerance cm3/1000s. : 14.0 Rated speed rpm : 250	+++++++++++++++++++++++++++++++++++++++
cm3/1000s. : 14.0 Rated speed rpm : 250	+++++++++++++++++++++++++++++++++++++++
	+
Dook Annual in my a / /O	
Rack travel in mm : 4.60 Tolerance mm : +- 0.30 Del. quantity	Ţ
cm3/1000 strokes : 19.0 cm3/1000 strokes : + 3.0 Check tolerance	+
cm3/1000s. : +- 6.0 Spreed	I
cm3/1000 strokes : 4.0 Check tolerance	I
cm3/1000s. : 8.0	\pm
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+++++++++++++++++++++++++++++++++++++++
GUIDE SLEEVE TRAVEL	‡
Rated speed rpm : 250 guide steeve	+
travel mm : 1.79 Tolerance mm : + 0.20	† †
Rated speed rpm : 1116 guide sleeve	+
travel mm : 10.09 Tolerance mm : +- 0.15	†
Rated speed rom : 644 guide sleeve	Ī
travel mm : 4.47 Tolerance mm : + 0.25	†
Rated speed rpm : 290 guide sleeve	Ī
travel mm : 2.62 Tolerance mm : + 0.25	Ŧ

Rated speed rpm guide sleeve	: 1310
travel mm	: 13.50
Tolerance mm	: +- 0.50
GUIDE SLEEVE POSIT	TION
Rated speed rpm	: 1170
Rack travel in mm Tolerance mm	: 12.10 : ← 1.30
FULL LOAD DELIVERY	AT FULL LOAD STO
Rated speed rpm	: 775
Aneroid pressure hPa	: 1500
Del. quantity cm3/1000 strokes	: 330.0
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000s. Spreed	: +- 10.0
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 14.0
	·
CONTROL LEVER	
control lever	
position degree tolerance degree	: 63.0 : +- 4.0
toterance degree	. +- 4.0
control lever	404 5
position degree	: 121.0 : +- 4.0
tolerance degree	4.0
RATED SPEED	
rack travel mm	: 12.10
Rated speed rpm	: 1095
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
Rated speed rpm	: 1180
Tolerance 1/min	: + 15
račk travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300
	
LOW IDLE	

		+		
control lever		+	Pressure hPa	: 300
position degree		†	rack travel mm	9.80
tolerance degree	: +- 4.0	Ī	Tolerance mm	: + 0.15
control lever			Pressure hPa	: 610
position degree		+	Pressure hPa rack travel mm	: 11.50
tolerance degree	: +- 4.0	+	Tolerance mm	: - 0.05
Tankina		†		
Testing:		Ī	START CUT-OUT	
Rated speed rpm	: 250	1	017AK1 001 001	
Rated speed rpm rack travel mm Tolerænce mm	: 4.60	+	Rated speed rpm Rated speed rpm	: > 100
Tolerance mm	: +- 0.30	†	Rated speed rpm	: < 170
Dated speed non	. 150	†	Check	
Rated speed rpm	. 150	I	speed 1/min	: > 80
CRT mm min.	: > 7.30	1	Check	
		+	speed 1/min	: < 190
Rated speed rpm	: 275	†		
		İ	FUEL DELIVERY CHA	PACTERISTICS
TORQUE CONTROL		1	TOLL DELIVERY OFF	MAC PERIOTION
		+	Aneroid pressure	
Rated speed rpm rack travel mm Toierance mm	: 775	+	hPa Rated speed rpm	: 1500
rack travel mm	14.05	†	Rated speed rpm	: 650
locerance mm	; +- 0.05	I	Del. quantity cm3/1000 strokes	• 319.0
Rated speed rpm	: 650	1	cm3/1000 strokes	: +- 4.0
rack travel mm	: 13.05	+	Check tolerance	
Tolerance mm	: +- 0.10	+	cm3/1000s.	: 10.0
Dated speed spe	. 1050	†	Aneroid pressure	
Rated speed rpm rack travel mm Tolerance mm	: 13.10	Ī	hPa	: 1500
Tolerance mm	: +- 0.10	+	Rated speed rpm	: 1050
		+	Del. quantity	
Rated speed rpm rack travel mm	: 675	†	cm3/1000 strokes	
rack travel mm Tolerance mm	13.30	1	cm3/1000 strokes Check tolerance	: +- 4.0
TOTEL DIFFE HIM	4.50	I	cm3/1000s.	: +- 8.0
		 +		
ANEROID/ALTITUDE		+	Aneroid pressure	
COMPENSATOR TEST		†	hPa	: 1500 : 675
		Ī	Rated speed rpm Del. quantity	: 075
SETTING		1	cm3/1000 strokes	: 323.0
		+	cm3/1000 strokes	
Rated speed rpm	: 775	+	Check tolerance	
Pressure hPa	: 1500	+	cm3/1000s.	: + 10.0
rack travel and Tolerance mm	: 14.95 : +- 0.10	Ī	Aneroid pressure	
loterance ma	. +- 0.10	I	hPa	: -
MEASUREMENT		+	Rated speed rpm	: 500
		+	Del. quantity	400.0
Pressure hPa	- -	†	cm3/1000 strokes	
Rated speed rpm rack travel mm		1	cm3/1000 strokes Check tolerance	: + 1.0
Tolerance mm	: + 0.20	Ţ	cm3/1000s.	: +- 4.0
pp. mile um		+		
Rated speed rpm	<i>:</i> 775	+		

F10

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1095
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.70 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 210.0

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s.: +- 24.0

LOW IDLE

Rated speed rpm : 250 Del. quantity cm3/1000 strokes : 19.0

cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s.

Spreed cm3/1000 strokes : 4.0

: +- 6.0

Check tolerance : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 074 884

Injection pump

Pump designation : PES4M55C32ORS184 EP type number : 0 410 054 938

Governor

Governer design. : RSF375/1900M77 Governer no. : 0 420 021 273

Cust. part No. :

Customer—spec. information Customer : MB-PKW Motor : OM601-2.3L

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20

Check

tolerance $^{\circ}NW$: \leftarrow 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1850

Rack travel in mm : 12.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 42.0

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s.

cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 3.0

Rated speed rpm : 375	
Rateu speeu (piii : 3/3	LOW IDLE
Rack travel in mm : 4.70	-
Tolerance mm : +- 0.10 -	
Del. quantity	control lever
cm3/1000 strokes : 6.5	position degree : 14.0
cm3/1000 strokes : +- 0.5 Spreed	tolerance degree : 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring
- 1.0	Rated speed rpm : 375
-	rack travel mm : 4.70
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
	Poted and during 1/50
IDLE STAGE	- Rated speed rpm : 450 - rack travel mm : 3.40
INTE SINGE	F rack travel mm : 5.40 Folerance mm : +- 0.10
]	
Rack travel in mm: 6.25	Load pick-up
Tolerance mm : +- 0.25	-
4	- Rated speed rpm : 250
	rack travel mm : > 10.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Poted energy and 4000
Rated speed rpm : 1850	Rated speed rpm : 1000
Rated speed rpm : 1850 - Ref. pressure	CRT mm max. : 1.45
ALDA / ADA hPa : 1100	- IIII MA
Del. quantity	rack travel mm : 4.70
cm3/1000 strokes : 42.0	- Rated speed rpm : 375
cm3/1000 strokes : + 0.5	· '
Check tolerance	
cm3/1000s. : +- 1.5	
Spreed	TORQUE CONTROL
cm3/1000 strokes : 2.5 Check tolerance	Poted speed now - 4050
cm3/1000s. : 3.0	- Rated speed rpm : 1850 - rack travel mm : 12.30
CIRS/ 10003 3.0	- Tolerance mm : +- 0.05
	- 10 cer arice and
RATED SPEED	- Rated speed rpm : 1000
+	- rack travel mm : 12.35
₹ , ,	Tolerance mm : \leftarrow 0.10
control lever	<u>.</u>
position degree : 50.0	AD HISTMENIT TEST ADA/ALDA
Rated speed rpm : 2200	- ADJUSTMENT TEST ADA/ALDA
rack travel mm : 5.60	- SETTING
Tolerance mm : + 0.25	-
+	- Rated speed rpm : 1000
Rated speed rpm : 2400	- Ref. pressure
rack travel mm : 0.50	- ALDA / ADA hPa : 940
Tolerance mm : \leftarrow 0.50	- rack travel mm : -0.10
	- Tolerance mm : +- 0.10
SET IDLE CONTROL LEVER POSITION	- MEASUREMENT
Rated speed rpm : 1000	- - Rated speed rpm : 1000
+	- Ref. pressure
CRT mm max. : 1.45	- ALDA / ADA hPa : 900
†	- rack travel mm : -0.40

Tolerance mm	: +- 0.10	Ī
Ref. pressure ALDA / ADA hPa	: 750	LOW IDLE
rack travel mm	: -1.50	Rated speed rpm : 375
Tolerance mm	: + 0.20	+ Del. quantity
TOTAL GITTO HAIR		+ cm3/1000 strokes : 7.8
		Check tolerance
		- + cm3/1000s. : + 2.3
FUEL DELIVERY CHA	APACTERISTICS	Spreed
I OFF DEFTATIVE CON	WACIENTO TEO	+ Check tolerance
Ref. pressure		+ cm3/1000s. : 1.5
ALDA / ADA hPa	: 1100	1.9
Rated speed rpm		1
Del. quantity	. 1000	
cm3/1000 strokes	39.4	1
cm3/1000 strokes		1
Check tolerance		1
cm3/1000s.	: +- 2.0	control lever
Spreed	2.0	position degree : > 47.00
cm3/1000 strokes	: 2.5	+ F55.0.01 degree . > 41.00
Check tolerance		1
cm3/1000s.		- control lever
	· • • • • • • • • • • • • • • • • • • •	position degree : < 44.50
		+
		- +
HIGH IDLE		+ SETTING PNEUMATIC FAST IDLE (PLA)
		+ (PLA) POSITION
Ref. pressure		+
ALDA / ADA hPa	: 1100	+
Rated speed rpm	: 2200	+ control lever
rack travel mm	: 5.60	position degree : 14.0
Tolerance mm	: +- 0.25	+ tolerance degree : +- 2.0
Del. quantity		+
cm3/1000 strokes	: 16.0	+ Rated speed rpm : 425
cm3/1000 strokes	: +- 2.0	+
Check tolerance		+ Rack travel in mm : 7.00
cm3/1000s.		Tolerance mm : + 0.80
Spreed	· · · · ·	Del. quantity
cm3/1000 strokes	: 2.5	+ cm3/1000 strokes : 15.3
Check tolerance	-	+ cm3/1000 strokes : + 3.5
	: 3.0	- Check tolerance
e: :=# ## **		+ cm3/1000s. : +- 4.5
		- + Vacuum hPa : 450.0
STARTING FUEL DEL	IVERY	†
Rated speed rpm	: 100	I
rack travel mm		
Del. quantity	20.10	TESTING PNEUMATIC SHUTOFF DEVICE
cm3/1000 strokes	: 59.8	T LEGITING LIMEDIMITE QUOIDED DEATER
cm3/1000 strokes		Rated speed rpm : 375
	, 	+ Rated speed rpm : 375 + Vacuum hPa : -450.0
Check tolerance	: ÷- 5.0	T vacuum nra : -430.0
cm3/1000s.	: +- 5.0	Ť
Spreed		T
cm3/1000 strokes	: 6.0	
Check tolerance		†
m3/1000s.	: 6.0	+ End of test specification sheet
.ms/ 10003.		1

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 075 925

Injection pump

Pump designation : PES5M55C320RS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M56-13

Governer no. : 0 420 021 171

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM605
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600 REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : +- 0.20

Check

tolerance *NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.75

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 37.0

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5

CRT mm max. : 1.95 Check tolerance 3.0 cm3/1000s. 350 Rated speed rpm : LOW IDLE Rack travel in mm : 7,40 Setting point w/out bumper spring Rated speed rpm : Tolerance mm : \leftarrow 0.10 Del. quantity rack travel mm cm3/1000 strokes : 8.5 cm3/1000 strokes : +-SET IDLE AUXILIARY SPRING 0.5 Spreed cm3/1000 strokes : 1.0 Rated speed rpm rack travel mm : +- 0.10 Tolerance mm (B) SETTING OF INJECTION PUMP WITH GOVERNOR rack travel mm Rated speed rpm Tolerance 1/min : +-IDLE STAGE Load pick-up Rack travel in mm: 6.25 Rated speed rpm Tolerance mm : \leftarrow 0.25 rack travel mm : > 10.00 Rated speed rpm : 1400 FULL LOAD DELIVERY AT FULL LOAD STOP CRT mm max. : Rated speed rpm : 1400 Ref. pressure rack travel mm : ALDA / ADA hPa 1100 Rated speed rpm : Del. quantity cm3/1000 strokes : 37.0 cm3/1000 strokes : +-0.5 TORQUE CONTROL Check tolerance cm3/1000s.1.5 Rated speed rpm : 1400 Spreed cm3/1000 strokes : 2.5 rack travel mm : + 0.05Check tolerance Tolerance mm cm3/1000s. 3.0 Rated speed rpm rack travel mm : + 0.15RATED SPEED Tolerance mm Rated speed rpm : rack travel mm control lever : : +- 0.15 50.0 Tolerance mm position degree : 2700 Rated speed rpm : ADJUSTMENT TEST ADA/ALDA 7.50 rack travel mm : + 0.30Tolerance mm SETTING 3150 Rated speed rpm 0.50 Rated speed rpm : rack travel mm : +- 0.50 Ref. pressure Tolerance mm ALDA / ADA hPa : rack travel mm : + - 0.10SET IDLE CONTROL LEVER POSITION Tolerance mm

350

475

5.40

3.00

700

250

1.95

7.40

350

12.75

12.30

2300

2500 11.90

1400

940

MEASUREMENT

-0.10

Rated speed rpm : 1400

Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: 900 : −0.40 : ← 0.10 : 750 : −1.50	+ ri + To + cr + cr + cl + cr + cr + cr + cr	ated speed rpm ack travel mm olerance mm el. quantity m3/1000 strokes m3/1000 strokes heck tolerance m3/1000s. preed m3/1000 strokes heck tolerance m3/1000s.	: 21.60 : + 1.50 : 55.0 : + 4.0 : + 5.0 : 6.0
FUEL DELIVERY CHA	ARACTERISTICS	+		
Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 2300 : 39.3	+ Ra + De	OW IDLE ated speed rpm el. quantity m3/1000 strokes	
Check tolerance			ns/ludu strokes heck tolerance	; 9.5
cm3/1000S.			m3/1000s.	: + 2.3
Spreed cm3/1000 strokes	: 2.5		oreed heck tolerance	
Check tolerance			m3/1000s.	: 1.5
cm3/1000s.	: 3.0	1		
Ref. pressure ALDA / ADA hPa Rated speed rpm Spreed Del. quantity cm3/1000 strokes cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 2500 : 38.0 : ← 1.0 : ← 2.0		ontrol lever osition degree ontrol lever osition degree ETTING PNEUMATIC PLA) POSITION atted speed rpm	: < 46.50
HIGH IDLE		+ ,,		. 9 25
Ref. pressure ALDA / ADA hPa Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 7.50 : +- 0.30	+ To + De + cn + cn + ch	ack travel in mm blerance mm el. quantity m3/1000 strokes m3/1000 strokes neck tolerance m3/1000s. acuum hPa	: + 0.70 : 12.0
STARTING FUEL DEL	IVERY	TE	ESTING PNEUMATIC	SHUTOFF DEVICE

Rated speed rpm : 350 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.11.96 : ISO 4113 Test oil

Combination No. : 0 400 075 926

Injection pump

Pump designation : PES5M55C32ORS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M75-3 Governer no. : 0 420 021 173

Cust. part No. :

Customer-spec. information Customer : MB-PKW Motor : 0M605 Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm : 21.00 : +- 1.00 Tolerance mm

Firing order : 1-2-4-5-3

: 0-72-144-216-288 Phasing

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : +- 0.20

Check

: + 0.30 tolerance *NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.75 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 37.0

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

cm3/1000 strokes : 2.5	+ Rated speed rpm : 1400
Check tolerance cm3/1000s. : 3.0	CRT mm max. : 1.95
Rated speed rpm : 350	LOW IDLE
Rack travel in mm: 7.40 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 8.5 cm3/1000 strokes: + 0.5	Setting point w/out Lumper spring Rated speed rpm : 350 rack travel mm : 7.40 SET IDLE AUXILIARY SPRING
Spreed	+
cm3/1000 strokes : 1.0	+ Rated speed rpm : 475 + rack travel mm : 5.40 + Tolerance mm : + 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ rack travel mm : 3.00 + Rated speed rpm : 700 + Tolerance 1/min : + 50
IDLE STAGE	Load pick-up
Rack travel in mm : 6.25 Tolerance mm : + 0.25	Rated speed rpm : 250 rack travel mm : > 10.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1400
Rated speed rpm : 1400	CRT mm max. : 1.95
Ref. pressure ALDA / ADA hPa : 1100 Del. quantity cm3/1000 strokes : 37.0	rack travel mm : 7.40 Rated speed rpm : 350
cm3/1000 strokes : +- 0.5 Check tolerance	TORQUE CONTROL
cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance	Rated speed rpm : 1400 rack travel mm : 12.75 Tolerance mm : + 0.05
cm3/1000s. : 3.0 RATED SPEED	Rated speed rpm : 2300 rack travel mm : 12.30 Tolerance mm : + 0.15
control lever position degree : 50.0	Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : +- 0.15
Rated speed rpm : 2700 rack travel mm : 7.50 Tolerance mm : +- 0.30	ADJUSTMENT TEST ADA/ALDA
Rated speed rpm : 3150 rack travel mm : 0.50 Tolerance mm : +- 0.50	Rated speed rpm : 1400 Ref. pressure ALDA / ADA hPa : 940
SET IDLE CONTROL LEVER POSITION	+ rack travel mm : -0.10 + Tolerance mm : +- 0.10 +

MEASUREMENT

Rated speed rpm	:	1400
Ref. pressure		
ALDA / ADA hPa	:	900
rack travel mm	:	-0.40
Tolerance mm	: +	- 0.10
Ref. pressure		
ALDA / ADA hPa	:	750

ALDA / ADA hPa : 750
rack travel mm : -1.50
Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure			
ALDA / ADA hPa	:	1	100
Rated speed rpm	:	2	300
Del. quantity			
cm3/1000 strokes	:		39.3
cm3/1000 strokes	:	+-	0.8
Check tolerance			
cm3/1000s.	:	+-	1.8
Spreed			
cm3/1000 strokes	:		2.5
Check tolerance			
cm3/1000s.	:		3.0

Ref. pressure ALDA / ADA hPa : Rated speed rpm : 1100 2500 Spreed Del. quantity cm3/1000 strokes : 38.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s.: +- 2.0 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0

HIGH IDLE

Ref. pressure			
ALDA / ADA hPa	:		100
Rated speed rpm	:		700
rack travel mm	:		7.50
Tolerance mm	:	+-	0.30
Del. quantity			
cm3/1000 strokes	:		14.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	3.0

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 21.60
Tolerance mm	: +-	1.50
Del. quantity		
cm3/1000 strokes	:	55.0
cm3/1000 strokes	: +-	4.0
Check tolerance		
cm3/1000s.	: +-	5.0
Spreed		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	6.0
Spreed cm3/1000 strokes Check tolerance	: :	6.0

LOW IDLE

Rated speed rpm Del. quantity	:	350
cm3/1000 strokes	:	9.5
Check tolerance cm3/1000S.	: +-	2.3
Spreed Check tolerance		
cm3/1000s.	:	1.5

control lever position degree : > 49.00

control lever position degree : < 46.50

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

Rated speed rpm	:		400
Rack travel in mm Tolerance mm Del. quantity	:	+-	8.25 0.70
cm3/1000 strokes cm3/1000 strokes Check tolerance	:	+-	12.0 3.5
cm3/1000s. Vacuum hPa	:	+-	4.5 450.0

ADJUST ACTIVE SURGE DAMPING ARD

Rated speed rpm : 1400 rack travel mm : 1.70 Tolerance mm : + 0.15

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.11.96 Test oil : ISO 4113

Combination No. : 0 400 5/6 963

Injection pump

Pump designation : PES6M55C32ORS157-1

EP type number : 0 410 056 991

Governor

Governer design. : RSF450/2300M68-1 Governer no. : 0 420 021 141

Cust. part No. :

Customer-spec. information Customer : MB-NFZ

Motor : 0M603A (3.0L)

Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 19.50 Tolerance : $\leftarrow 0.20$

Check

tolerance $^{\circ}NW$: \leftarrow 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 48.5

E7 1000 3tl 0kc3 . 4013

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 1.5

....

Spreed

cm3/1000 strokes : 2.5	+ Rated speed rpm : 1000
Check tolerance cm3/1000s. : 3.0	CRT mm max. : 1.95
Rated speed rpm : 450	FOM IDLE
Rack travel in mm : 5.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 7.0 cm3/1000 strokes : + 0.5 Spreed cm3/1000 strokes : 1.0	control lever position degree : 12.0 tolerance degree : +- 2.0 Setting point w/out bumper spring Rated speed rpm : 450 rack travel mm : 5.50
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ SET IDLE AUXILIARY SPRING
	+ Rated speed rpm : 500
IN C CTACE	+ rack travel mm : 4.40 + Tolerance mm : +- 0.10
IDLE STAGE	T Toterance mm : TOTO
Rack travel in mm : 6.50 Tolerance mm : + 0.10	rack travel mm : 2.50 Rated speed rpm : 670 Tolerance 1/min : +- 50
	+ + Load pick-up
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Patrid and and and A000	+ Rated speed rpm : 250 + rack travel mm : > 12.50
Rated speed rpm : 1000 Ref. pressure	+ rack travel mm : > 12.50
ALDA / ADA hPa : 1850 Del. quantity	Rated speed rpm : 1000
cm3/1000 strokes : 48.5 cm3/1000 strokes : +- 0.5	CRT mm max. : 1.95
Check tolerance cm3/1000s. : +- 1.5	rack travel mm : 5.50 Rated speed rpm : 450
Spreed cm3/1000 strokes : 2.5	Į.
Check tolerance cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1000 rack travel mm : 13.15 Tolerance mm : + 0.05
control lever position degree : 50.0	Rated speed rpm : 1600 rack travel mm : 12.50 Tolerance mm : + 0.10
Rated speed rpm : 2500	Batad anada nam . 2200
rack travel mm : 8.60 Tolerance mm : +- 0.20	Rated speed rpm : 2200 rack travel mm : 11.60 Tolerance mm : + 0.10
Rated speed rpm : 2950 rack travel mm : 0.50	I
rack travel mm : 0.50 Tolerance mm : +- 0.50	ADJUSTMENT TEST ADA/ALDA
	SETTING
SET IDLE CONTROL LEVER POSITION	Rated speed rpm : 1000

Ref. pressure ALDA / ADA hPa : 1400 rack travel mm : -0.60 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : 1100 rack travel mm : -2.45 Tolerance mm : + 0.10 Ref. pressure ALDA / ADA hPa : 750 rack travel mm : -4.60 Tolerance mm : + 0.20	Check tolerance cm3/1000s. : 3.0 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 37.0 cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0
	HIGH IDLE
FUEL DELIVERY CHARACTERISTICS Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1600 Del. quantity cm3/1000 strokes : 47.3 cm3/1000 strokes : +- 0.8	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2500 rack travel mm : 8.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 32.0 cm3/1000 strokes : + 2.0
Check tolerance cm3/1000s. : +- 1.8 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0	Check tolerance cm3/1000s. : + 3.0 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2200 Spreed Del. quantity cm3/1000 strokes : 45.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 2.0 Spreed cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0	STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm :> 20.10 Del. quantity cm3/1000 strokes : 52.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000S. : 6.0
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 37.0 cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 1.5 Spreed cm3/1000 strokes : 2.5	LOW IDLE Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 8.3 Check tolerance cm3/1000s. : + 2.3 Spreed Check tolerance cm3/1000s. : 1.5

control lever

position degree : > 35.50

control lever

position degree : < 33.00

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : + 2.0

Rated speed rpm : 500

Rack travel in mm: 7.60 Tolerance mm : +- 0.80

Del. quantity

cm3/1000 strokes : 19.0 cm3/1000 strokes : + 3.5

Check tolerance

cm3/1000S. : +- 4.5 Vacuum hPa : 450.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 450 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.11.96 Edition Test oil : ISO 4113

Combination No. : 0 401 840 065

Injection pump

Pump designation : PE12P100A320LS828 EP type number : 0 411 800 036

Governor

Governer design. : RQ750PA484R Governer no. : 0 421 801 104

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 404 Motor Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 631 343 009 assembly

Opening pressure

173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.25 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

: 0-45-60-105-120 Phasing

: -165-180-225-240 : -285-300-345

: +- 0.30 Tolerance

Check

: **←** 0.50 tolerance "NW

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.15

Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes	: 98.0
cm3/1000 strokes	; +- 1.0
CIRCY TODO SCI ORCS	
Check tolerance cm3/1000s.	: +- 3.0
Spreed cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 6.0
Rated speed rpm	: 250
Rack travel in mm	8.00 : + 0.10
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 16.0 : + 3.0
Check tolerance cm3/1000s.	: +- 5.5
Spreed cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	: 5.0 NECTION PUMP
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR	
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm	JECTION PUMP
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER	Y AT FULL LOAD STOP
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	Y AT FULL LOAD STOP : 700 : - : 98.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes	EY AT FULL LOAD STOP : 700 : -
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	Y AT FULL LOAD STOP : 700 : - : 98.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	Y AT FULL LOAD STOP : 700 : - : 98.0 : +- 1.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed	Y AT FULL LOAD STOP : 700 : - : 98.0 : + 1.0 : + 3.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance	Y AT FULL LOAD STOP : 700 : - : 98.0 : +- 1.0 : +- 3.0 : 3.0
Check tolerance cm3/1000s. (B) SETTING OF IN WITH GOVERNOR FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	Y AT FULL LOAD STOP : 700 : - : 98.0 : + 1.0 : + 3.0 : 3.0

rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 900
LOW IDLE	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 8.00 : + 0.10
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.15 : +- 0.05
Rack travel in mm Rated speed rpm Tolerance 1/min	
LOW IDLE	
Rated speed rpm Del. quantity	: 250
cm3/1000 strokes cm3/1000 strokes	: 16.0 : +- 3.0
Check tolerance cm3/1000s.	: +- 5.5
Spreed cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 5.0
End of test specif	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 646 617

Injection pump

Pump designation : PE6P130A320RS7282 EP type number : 0 412 636 825

Governor

Governer design. : RQV300...900PA1059 Governer no. : 0 421 814 049

Cust. part No. : 865851-P07 V.10.96

Customer—spec. information Customer : PENTA Motor : TAD 1230 P

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 8.30 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel % mm : 11.55
Tolerance mm : + 0.05

Del. quantity +	
cm3/1000 strokes : 352.0	Rated speed rpm : 420
	guide sleeve
cm3/1000 strokes : + 1.5	travel mm : 3.17
	Tolerance mm : + 0.25
Check tolerance +	
cm3/1000s. : \leftarrow 5.0 $+$	Rated speed rpm : 1210
	guide sleeve
Spreed +	travel mm : 11.50
cm3/1000 strokes : 7.0 +	Tolerance mm : +- 0.50
Check tolerance +	
cm3/1000s. : 11.0 +	GUIDE SLEEVE POSITION
†	
Rated speed rpm : 300 +	Rated speed rpm : 980
†	
†	Rack travel in mm : 16.50
Rack travel in mm: 4.00	Tolerance mm : +- 1.30
Tolerance mm : + 0.10	
Del. quantity	FILL LOAD DELYMPRY AT THE LOAD CTCC
cm3/1000 strokes : 23.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0 +	Dated aread area 700
Check tolerance + 6.0 +	Rated speed rpm : 700
1	Aneroid pressure hPa : 2000
Spreed + cm3/1000 strokes : 7.0 +	
	Del. quantity cm3/1000 strokes : 352.0
Check tolerance + cm3/1000s. : 11.0 +	cm3/1000 strokes : +- 1.5
cm3/1000s. : 11.0 +	Check tolerance
Ι	cm3/1000s. : +- 5.0
(B) SETTING OF INJECTION PUMP	Spreed
WITH GOVERNOR	cm3/1000 strokes : 7.0
MIIII GOACIMAN	
	TORCK TOTECHICS
	Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : 11.0
GUIDE SLEEVE TRAVEL	
+	
Rated speed rpm : 300	cm3/1000s. : 11.0
Rated speed rpm : 300 + guide sleeve +	
Rated speed rpm : 300 + guide sleeve + travel mm : 1.81	cm3/1000s. : 11.0
Rated speed rpm : 300 + guide sleeve +	cm3/1000s. : 11.0
Rated speed rpm : 300 + guide sleeve + travel mm : 1.81	cm3/1000s. : 11.0 CONTROL LEVER control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : 4.0 control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : 4.0 control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 5.16 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 5.16 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 5.16 Tolerance mm : 1.98	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 5.16 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 315 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 315 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25 Rated speed rpm : 1.98 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : + 15
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 315 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25 Rated speed rpm : 365 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : 40.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : 40.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : 5.16 Tolerance mm : 40.25 Rated speed rpm : 315 guide sleeve travel mm : 1.98 Tolerance mm : 40.25 Rated speed rpm : 365 guide sleeve travel mm : 2.54	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : +- 4.0 control lever position degree : 117.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : +- 15 rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.81 Tolerance mm : + 0.25 Rated speed rpm : 928 guide sleeve travel mm : 7.72 Tolerance mm : + 0.25 Rated speed rpm : 650 guide sleeve travel mm : 5.16 Tolerance mm : + 0.25 Rated speed rpm : 315 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25 Rated speed rpm : 365 guide sleeve travel mm : 1.98 Tolerance mm : + 0.25	cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 61.0 tolerance degree : + 4.0 control lever position degree : 117.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1000 Tolerance 1/min : + 15 rack travel mm : 0.50

LOW IDLE

control lever

position degree : 74.0 tolerance degree : + 4.0

control lever

position degree : 18.0 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 rack travel mm : 4.00 Tolerance mm : + 0.10

rack travel mm : > 5.60 Rated speed rpm : 200

Rated speed rpm : 365

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 11.55 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 2000
rack travel mm : 11.55
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 8.25
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 1420 rack travel mm : 3.00 Tolerance mm : +- 0.20

Pressure hPa : 640 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 230.0 cm3/1000 strokes : \leftarrow 1.5 Check tolerance

cm3/1000s. : +- 5.0

BREAKAWAY

Rack travel in mm : 10.50 Rated speed rpm : 915 Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 300 Del. quantity 23.0 cm3/1000 strokes : cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0

End of test specification sheet

G03

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.11.96 Test oil : 180 4113

Combination No. : 0 402 648 967

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

Governer no. : 0 421 815 361

Cust. part No. : 9275447

Customer—spec. information
Customer : LIEBHERR
Motor : D 9408 TI
Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 :-3-5-4

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance "NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.85

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 277.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Charle Aslanana	
Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Rated speed rpm : 1185
Rack travel in mm: 5.40 Tolerance mm: + 0.10	Rack travel in mm: 10.80 Tolerance mm: : - 1.30
Del. quantity cm3/1000 strokes : 23.0 + cm3/1000 strokes : + 3.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance + 6.0 +	Rated speed rpm : 1050 Aneroid pressure
Spreed cm3/1000 strokes : 6.0	hPa : – Del. quantity cm3/1000 strokes : 277.5
Check tolerance cm3/1000s. : 10.0	cm3/1000 strokes : +- 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0
CUIDE OF EACH TRAVE	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 300	
guide sleeve + 1.69	CONTROL LEVER
Tolerance mm : + 0.25	control lever position degree : 121.0
Rated speed rpm : 1117	tolerance degree : +- 4.0
travel mm : 10.38 + Tolerance mm : + 0.25	RATED SPEED
Rated speed rpm : 746 + guide sleeve +	rack travel mm : 10.85 Rated speed rpm : 1105 Tolerance 1/min : +- 5
travel mm : 6.20 + Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1185
Rated speed rpm : 353 quide sleeve	Tolerance 1/min : + 15
travel mm : 2.45 Tolerance mm : ← 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
Rated speed rpm : 403 guide steeve	nacca operating in the control of th
Travel mm : 3.18 + 0.25 + 0.25	LOW IDLE
Rated speed rpm : 450 guide sleeve	control lever
travel mm : 3.66 Tolerance mm : + 0.25	position degree : 74.0 tolerance degree : +- 4.0
Rated speed rpm : 1320	Testing:
travel mm : 13.50 + Tolerance mm : + 0.50 +	Rated speed rpm : 300 rack travel mm : 5.40
COE	

Tolerance mm	: + 0.10
Rated speed rpm	: 200
CRT mm min.	: > 7.60
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 9.75 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.75 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.40 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 11.85 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 9.35 : + 0.10
Rated speed rpm	: 1050
Pressure hPa rack travel mm Tolerance mm	: 725 : 11.00 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 525 : 9.65 : + 0.10

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: -
Rated speed rpm	: 800
Del. quantity	
	. 20/ 0
cm3/1000 strokes	: 294.0
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Aneroid pressure	
	-
hPa	:
Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes	: 271.0
cm3/1000 strokes	: +- 3.0
	. +- 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Aneroid pressure	
hPa	• _
	· : 550
Rated speed rpm	: 220
Del. quantity	
cm3/1000 strokes	: 247.5
cm3/1000 strokes	: +- 1.0
Check tolerance	. , , , ,
cm3/1000s.	: ← 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
· · · · · · · · · · · · · · · · · · ·	
BREAKAWAY	
Rack travel in mm	: 10.85
Rated speed rpm	: 1105
Tolerance 1/min	: +- 5
	
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 9.40
Tolerance mm	: +- 0.20
Del. quantity	
	: 160.0
cm3/1000 strokes	
cm3/1000 strokes	: +- 10.0
Check tolerance	
cm3/1000s.	: +- 14.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 23.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 648 967A

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

: 0 421 815 361 Governer no.

Cust. part No. : 9275447

Customer-spec. information Customer : LIEBHERR : D 9408 TI Motor Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 3.65 : + 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : **←** 0.30

Check

tolerance *NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.85

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 277.5

cm3/1000 strokes : + 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

cm3/1000 strokes : 5.0

G08

Charle de Langue	•
Check tolerance cm3/1000s. : 9.0	- GUIDE SLEEVE POSITION
S.II 10001	
Rated speed rpm : 300	- Rated speed rpm : 1185
 	-
T	- Rack travel in mm : 10.80
Rack travel in mm: 5.40	- Tolerance mm : d− 1.30
Tolerance mm : + 0.10	
Del. quantity - cm3/1000 strokes : 23.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : + 3.0	- TOLL LOAD DELIVERY AT TOLL LOAD STOF
Check tolerance	- Rated speed rpm : 1050
cm3/1000s. : +- 6.0	- Aneroid pressure
Spreed	- hPa : -
cm3/1000 strokes : 6.0	- Del. quantity
Check tolerance	- cm3/1000 strokes : 277.5
cm3/1000s. : 10.0	- cm3/1000 strokes : +- 1.0 - Check tolerance
I	- cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP	- Spreed
WITH GOVERNOR	- cm3/1000 strokes : 5.0
+	- Check tolerance
	- cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	•
Rated speed rpm : 300	•
Rated speed rpm : 300 + guide sleeve +	CONTROL LEVER
travel mm : 1.69	
Tolerance mm : + 0.25	control lever
+	position degree : 121.0
Rated speed rpm : 1117 +	tolerance degree : +- 4.0
guide sleeve + travel mm : 10.38 +	RATED SPEED
Tolerance mm : + 0.25	RATED SPEED
Total arise min	rack travel mm : 10.85
Rated speed rpm : 746	Rated speed rpm : 1105
guide sleeve	Tolerance 1/min : +- 5
travel mm : 6.20	
Tolerance mm : + 0.25 +	rack travel mm : 4.00
Rated speed rpm : 353	Rated speed rpm : 1185 Tolerance 1/min : +- 15
Rated speed rpm : 353 + guide sleeve +	Tolerance 1/min : + 15
travel mm : 2.45	rack travel mm : 0.50
Tolerance mm : + 0.25	Tolerance mm : + 0.50
+	Rated speed rpm : 1300
Rated speed rpm : 403	
guide sleeve	
travel mm : 3.18 Tolerance mm : + 0.25	LOW IDLE
Total alike limi	LOW IDEE
Rated speed rpm : 450	
guide sleeve	control lever
travel mm : 3.66 +	position degree : 74.0
Tolerance mm : + 0.25	tolerance degree : +- 4.0
Rated speed rpm : 1320	Testing:
Rated speed rpm : 1320 + guide sleeve +	resemb.
travel mm : 13.50	Rated speed rpm : 300
Tolerance mm : + 0.50	rack travel mm : 5.40
C00	

Tolerance mm	: +- 0.10
Rated speed rpm	: 200
CRT mm min.	: > 7.60
Rated speed rom	: 400
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.85 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 9.75 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.75 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.40 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1050 : 1600 : 11.85 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 9.35 : +- 0.10
Rated speed rpm	: 1050
Pressure hPa rack travel mm Tolerance mm	: 725 : 11.00 : + 0.05
Pressure hPa	: 525 : 9.65

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: – : 800
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 294.0 : + 3.0
Check tolerance cm3/1000s.	: +- 6.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 271.0 : ← 3.0
cm3/1000s.	: +- 6.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 550
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 247.5 : +- 1.0
cm3/1000s. Spreed	: +- 4.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: 1105 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm	: 100 : 9.40
Tolerance mm Del. quantity cm3/1000 strokes	: + 0.20 : 160.0
cm3/1000 strokes Check tolerance	
cm3/1000s.	: +- 14.0

LOW IDLE

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 23.0 cm3/1000 strokes : +-3.0 Check tolerance

cm3/1000s.: +- 6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.11.96 Test oil : ISO 4113

Combination No. : 0 402 670 812

Injection pump

Pump designation : PE12P12OA32OLS7902 EP type number : 0 412 620 848

Governor

Governer design. : RSV350...1050P0A662

Governer no. : 0 421 833 579

Cust. part No. : 027 074 4302

Customer-spec. information
Customer : MB-NFZ
Motor : OM 444 LA
Power KW : 448.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 077

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : + 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1030

•	Ohard Artanana
Rack travel in mm: 14.50	· Check tolerance · cm3/1000s. : +- 4.0
Tolerance mm : +- 0.05	Spreed
Total direction	cm3/1000 strokes : 5.0
Del. quantity	Check tolerance
cm3/1000 strokes : 214.0	- cm3/1000s. : 9.0
and tood of ones . Evilla	. , , , , , , , , , , , , , , , , , , ,
cm3/1000 strokes : + 1.0	
+	
Check tolerance	CONTROL LEVER
cm3/1000s. : +- 4.0	
+	control lever
Spreed +	position degree : 94.0
cm3/1000 strokes : 5.0 +	tolerance degree : +- 4.0
	•
Check tolerance	ACCEMBLY COUMDION OFFTTING
cm3/1000s. : 9.0	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 350	Rated speed rpm : 1070
Mateu speed (pill : 330	rack travel mm : 13.50
1	
Rack travel in mm: 6.20	Rated speed rpm : 1160
Tolerance mm : + 0.10	Tolerance 1/min : + 4
Del. quantity	rack travel mm : 4.00
cm3/1000 strokes : 19.0 +	
cm3/1000 strokes : $+$ 3.0 $+$	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : +- 6.0	Rated speed rpm : 1350
Spreed + cm3/1000 strokes : 8.0 +	Rated speed rpm : 1071
Check tolerance	Rated speed rpm : 1071 rack travel mm : 13.50
cm3/1000s. : 12.0	rack travet mm . 15.50
. 12.0	Rated speed rpm : 1161
<u> </u>	Tolerance 1/min : +- 4
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00
WITH GOVERNOR +	
+	rack travel mm : 0.85
†	Tolerance mm : +- 0.55
GUIDE SLEEVE POSITION +	Rated speed rpm : 1072
Datad anad mm . 900	rack travel mm : 13.50
Rated speed rpm : 800	Rated speed rpm : 1162
Rack travel in mm: 0.50	Tolerance 1/min : + 4
Tolerance mm : +- 0.20	rack travel mm : 4.00
+	. 2011 01 210 11111
governor spring +	rack travel mm : 0.85
pre-tension +	Tolerance mm : +- 0.55
click setting x : 4.00	
+	Rated speed rpm : 1073 rack travel mm : 13.50
	rack travel mm : 13.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Detail aread area a 44/7
Poted speed upp : 1070	Rated speed rpm : 1163
Rated speed rpm : 1030 +	Tolerance 1/min : +- 4 rack travel mm : 4.00
Aneroid pressure + hPa : 1250 +	I AUN LI AVEL IIIII . 4.UU
Del. quantity	rack travel mm : 0.85
cm3/1000 strokes : 214.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : + 1.0	
+	Rated speed rpm : 1074
'	·

rack travel mm	: 13.50	†
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	ANEROID/ALTITUDE COMPENSATOR TEST
rack travel mm Tolerance mm Rated speed rpm	: +- 0.55	SETTING Rated speed rpm : 500 Pressure hPa : 1250
Rated speed rpm rack travel mm		rack travel mm : 4.70 Tolerance mm : +- 0.20
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4	MEASUREMENT Pressure hPa : - Rated speed rpm : 500
rack travel mm Tolerance mm	: 0.85 : +- 0.55	Rated speed rpm : 500
LOW IDLE		Pressure hPa : 300 rack travel mm : 1.10 Tolerance mm : + 0.05
control lever position degree tolerance degree		Pressure hPa : 650 rack travel mm : 4.05 Tolerance mm : + 0.20
Testing:		1
resumg:		1
Rated speed rpm rack travel mm Tolerance mm		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm	: 6.20 : + 0.10 : 2.00 : 405	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm	: 6.20 : +- 0.10 : 2.00 : 405 : +- 30	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min.	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIA	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : -
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIANT RACK travel mm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING : 2.00 : 1030 : 14.50	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 1.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIANT Rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING : 2.00 : 1030 : 14.50 : + 0.05 : 800	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm CRT mm min. SET IDLE AUXILIANT Rack travel mm TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 6.20 : + 0.10 : 2.00 : 405 : + 30 : 100 : > 9.30 RY SPRING : 2.00 : 1030 : 14.50 : + 0.05 : 800	Aneroid pressure hPa : 1250 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 216.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 1.0 Check tolerance

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 220.0 cm3/1000 strokes : + 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 19.0 cm3/1000 strokes : \leftarrow 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance

: 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 698 033

Injection pump

Pump designation : PE8H120/320LS3-2 EP type number : 0 412 628 003

Governor

Governer design. : RE36

Governer no. : 0 421 890 359

Cust. part No. : 0250745602

Customer—spec. information Customer : MB-NFZ Motor : OM 442 LA

TEST BENCH REQUIREMENTS

Inlet line : 3.2 ELAB

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 7.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.50

Check

tolerance 'NW : + 0.75

Start of delivery mark

Tolerance : + 0.50 Check

tolerance *NW : + 0.75

Barrel no. : 8

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

,	Took with southern made
TESTING & SETTING RACK TRAVEL SENSOR	 Test with control rod in stop position
POSITION	- - Engine speed min-1: 60
Engine speed min-1: 0	- Amplitude V : 1.4
ang wife operar man in	- Amplitude V : 1.4 - Tolerance V : +/- 0.6
Setting point	- Check
(P, R and H pump)	tolerance V : 4/- 1.20
Uact V : 3.100	- - Engine speed min-1: 600
CRT mm : 13.00	- Difference
Tolerance mm : +/- 0.05	- Amplitude to
Check	- Amplitude V : max.1.4
tolerance mm : +/- 0.10	-
Check value	•
(P, R and H pump)	- (C) INJECTION PUMP WITH POSITIONER
1	- - TEST POINT V1
Uact V : 1.700	•
CRT mm : 6.15	- Rated speed rpm : 750
Tolerance mm : +/- 0.25	- Uact V : 2.800
Check	Prestroke solenoid
tolerance mm : +/- 0.30	- Stroke mm : 7.40 - Del. quantity
I	- cm3/1000 strokes : 341.0
Setting point	- cm3/1000 strokes : +- 1.0
(dmuq M)	- Check tolerance
}	- cm3/1000s. : + 4.0
Uact V : 3.100	- Spreed
CRT mm : 12.50 +	- cm3/1000 strokes : 5.0
Tolerance mm : +/- 0.05 + Check +	- Check tolerance - cm3/1000S. : 9.0
tolerance mm : +/- 0.10	
+	- FUEL DELIVERY CHARACTERISTICS
Check value	. Detect aread are . OFO
(dwnd W)	- Rated speed rpm : 950 - Uact V : 2.900
Uact V : 1.700	Prestroke solenoid
CRT mm : 5.50	Stroke mm : 8.00
Tolerance mm : +/- 0.25	Del. quantity
Check	cm3/1000 strokes : 328.0
tolerance mm : +/- 0.30 +	cm3/1000 strokes : +- 3.0
Stan position	Check tolerance cm3/1000s. : +- 6.0
Stop position	
Uact V : Value with	Rated speed rpm : 550
deenergised adjusting magnet +	Uact V : 2.700
and control rod in	Prestroke solenoid
stop position. + CRT mm : 0.75	Stroke mm : 9.50 Del. quantity
CRT mm : U./5 + Tolerance mm : +/- 0.25 +	cm3/1000 strokes : 348.0
Check	cm3/1000 strokes : +- 3.0
tolerance mm : +/- 0.35	Check tolerance
†	cm3/1000s. : +- 6.0
ENGINE-SPEED SENSOR	Rated speed rpm : 630
(All P and R pumps not	Uact V : 2.000
H and M pumps)	Prestroke solenoid
+	Stroke mm : 5.30

Del. quantity cm3/1000 strokes : 201.0

TEST POINT L1

Rated speed rpm : 300 Uact V 1.500 : +- 0.060 Tolerance Volt Check tolerance Volt : +- 0.060 Prestroke solenoid Stroke mm 8.00 Del. quantity cm3/1000 strokes : 31.0 cm3/1000 strokes : +- 3.0Spreed cm3/1000 strokes : 6.0 Check tolerance 9.0 cm3/1000s.

STARTING FUEL DELIVERY

100 Rated speed rpm : 1.900 Uact V Prestroke solenoid

10.00 Stroke mm Del. quantity

cm3/1000 strokes : 108.0 cm3/1000 strokes : + 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.11.96 Test oil : ISO 4113

Combination No. : 0 402 746 6090

Injection pump

Pump designation : PES6P130A720RS7411 EP type number : 0 412 736 808

Governor

Governer design. : RQ275/950PA1274 Governer no. : 0 421 801 807

Cust. part No. : 221 575

Customer—spec. information Customer : RABA

Motor : siehe Bemerkung

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.50
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.30

Tolerance : + 0.30

Check

tolerance °NW : \leftarrow 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.10 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 263.0

cm3/1000 strokes	: + 1.0	guide sleeve travel mm : 11.50
Check tolerance cm3/1000S.	: + 4.0	Tolerance mm : + 0.50
Spreed cm3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance		Rated speed rpm : 1155
cm3/1000s.	: 9.0	Rack travel in mm : 12.10 Tolerance mm : + 1.30
Rated speed rpm	: 275	
	-	FULL LOAD DELIVERY AT FULL LOAD STO
Rack travel in mm		
Tolerance mm	: ← 0.10 +	Rated speed rpm : 600
Del. quantity	}	Aneroid pressure
cm3/1000 strokes	: 24.0	hPa : 1500
cm3/1000 strokes		Del. quantity
Check tolerance	1	cm3/1000 strokes : 263.0
cm3/1000s.	: + 6.0	cm3/1000 strokes : +- 1.0
Spreed	I	Check tolerance
cm3/1000 strokes	: 8.0	cm3/1000s. : +- 4.0
check tolerance	• • • • • • • • • • • • • • • • • • • •	Spreed : +- 4.0
	: 12.0	cm3/1000 strokes : 5.0
:m3/1000s.	: 12.0	
	†	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVE	1	CONTROL LEVER control lever
leted speed spm	: 275	position degree : 34.0
Rated speed rpm guide sleeve		tolerance degree : +- 4.0
ravel mm	: 2.17	coterance degree . The 4.0
ravel mm olerance mm		control lever
office un	0.20	
ated speed rpm	. 1111	position degree : 95.0 tolerance degree : +- 4.0
	· ''''	cotenance degree : The 4.0
ide sleeve	. 45/	DATEN SPEEN
ravel mm	: 6.54	RATED SPEED
lerance mm	: + 0.15	manl. #mar.ml ==: 40.40
	†	rack travel mm : 12.10
ted speed rpm	: 1050 +	Rated speed rpm : 1095
uide sleeve	+	Tolerance 1/min : +- 5
avel mm	: 6.00	
lerance mm	: + 0.10 +	rack travel mm : 4.00
	+	Rated speed rpm : 1190
ted speed rpm	: 354	Tolerance 1/min : + 15
ide sleeve	+	
avel mm	: 4.34	rack travel mm : 0.50
olerance mm	: + 0.10 +	Tolerance mm : + 0.50
	<u> </u>	Rated speed rpm : 1300
ated speed rpm	: 450	
ride sleeve	1	
avel mm	: 6.00	
lerance mm	: +- 0.10	LOW IDLE
redigite mil	I	
ated speed rpm	: 1300	
	1	

		+ rack travel mm : 12.05
control lever		+ Tolerance mm : + 0.05
position degree	: 73.0	+
tolerance degree	: ← 4.0	+
		†
control lever position degree	. 11 0	FUEL DELIVERY CHARACTERISTICS
tolerance degree		T FOEL DELIVERY CHARACTERISTICS
toter arioe acgree		Aneroid pressure
Testing:		+ hPa : 1500
		+ Rated speed rpm : 1050
Rated speed rpm	: 275 : 4.20	+ Del. quantity + cm3/1000 strokes : 252.0
rack travel mma Tolerance mm	: + 0.10	+ cm3/1000 strokes : 232.0 + cm3/1000 strokes : +- 3.0
rocer arice and	0.10	Check tolerance
rack travel mm	: 2.00	+ cm3/1000s. : +- 6.0
Rated speed rpm		+
Tolerance 1/min	: +- 20	+ Aneroid pressure
Rated speed rpm	: 175	+ hPa : - + Rated speed rpm : 500
Rated Speed 1 pill	. 173	+ Del. quantity
CRT mm min.	: > 6.80	+ cm3/1000 strokes : 147.0
		+ cm3/1000 strokes : $+$ 2.0
TORQUE CONTROL		+ cm3/1000s. : +- 4.0
Rated speed rpm	• 600	I
rack travel mm	: 13.10	+ BREAKAWAY
rack travel mm Tolerance mm	: +- 0.05	+
		†
Rated speed rpm	: 1050	+ Rack travel in mm: 12.10
rack travel mm Tolerance mm	: 13.10 : +- 0.10	+ Rated speed rpm : 1095 + Tolerance 1/min : +- 5
TOTEL WILL	0.10	+ voterance minimum.
		
ANEROID/ALTITUDE		+
COMPENSATOR TEST		+ STARTING FUEL DELIVERY
		Rated speed rpm : 100
SETTING		rack travel mm : 20.50
		+ Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 110.0
Pressure hPa	: 1500	+ cm3/1000 strokes : + 20.0
rack travel mm Tolerance mm		+ Check tolerance + cm3/1000s. : +- 24.0
TOTEL ALICE INII	0.05	
MEASUREMENT		+
		+
Pressure hPa	500	+ LOW IDLE
Rated speed rpm rack travel mm		I COM TOLE
Tolerance mm	: +- 0.20	Rated speed rpm : 275
		+ Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 24.0
Dunner In	. 700	+ cm3/1000 strokes : +- 3.0
Pressure hPa rack travel mm	: 380 : 9.85	+ Check tolerance + cm3/1000s. : + 6.0
Tolerance mm	: + 0.15	Spreed
	30,0	+ cm3/1000 strokes : 8.0
Pressure hPa	: 600	+
004		

FUEL DELIVERY CHAP	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 1500 : 1050 : 252.0 : + 3.0 : + 6.0 : - 500 : 147.0 : + 2.0 : + 4.0
BREAKAWAY Rack travel in mm Rated speed rpm Tolerance 1/min	: 1095
STARTING FUEL DELI	VERY
Rated speed rpm rack travel mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: 275 : 24.0 : ← 3.0 : ← 6.0 : 8.0

cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.11.96 Edition : Iso 4113 Test oil

Combination No. : 0 402 746 627

Injection pump

Pump designation : PES6P120A720LS7262

: -1

EP type number : 0 412 726 918

Governor

Governer design. : RQV350...925PA1331

: 0 421 814 190 Governer no.

Cust. part No. : 0240746202

Customer-spec. information Customer : MTU : 6R183-02 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 047

1.5 Inlet press. bar : Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 : + 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.02 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 6-2-4-1-5-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance "NW : + 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 925

Rack travel in mm : 12.30

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :	+	Rack travel in mm : Tolerance mm :	
cm3/1000 strokes : +	- 1.0		
Check tolerance cm3/1000s. : +	- 4.0	FULL LOAD DELIVERY Rated speed rpm :	AT FULL LOAD STOP 925
Spreed cm3/1000 strokes :	5.0	Aneroid pressure hPa : Del. quantity	
Check tolerance cm3/1000s. :	9.0	cm3/1000 strokes :	261.0 +- 1.0
Rated speed rpm :	350	cm3/1000s. :	+- 4.0
Rack travel in mm : Tolerance mm : + Del. quantity		cm3/1000 strokes : Check tolerance cm3/1000s. :	5.0 9.0
cm3/1000 strokes : cm3/1000 strokes : + Check tolerance		CONTROL LEVER	
	- 6.0 8.0	control lever position degree :	120 0
Check tolerance cm3/1000s. :	12.0	tolerance degree :	
(B) SETTING OF INJECT WITH GOVERNOR	ION PUMP	rack travel mm : Rated speed rpm : Tolerance 1/min :	
GUIDE SLEEVE TRAVEL		rack travel mm : Rated speed rpm :	4.00 1043
Rated speed rpm : guide sleeve	+		+- 15
	1.48		0.50 +- 0.50 1250
guide sleeve	988		
	- 0.15	LOW IDLE	
guide sleeve	3.02	control lever position degree :	44 0
Tolerance mm : +	- 0.25	tolerance degree :	+ 4.0
Rated speed rpm : guide sleeve	+	Testing:	750
	11.50 - 0.50 	Rated speed rpm : rack travel mm : Tolerance mm :	5.20 + 0.10
GUIDE SLEEVE POSITION	<u> </u>	Rated speed rpm :	250
Rated speed rpm :	1028	CRT mm min. :	> 7.53

G24

Rated speed rpm	: 450	<pre>Del. quantity cm3/1090 strokes : 257.0 cm3/1000 strokes : + 2.0</pre>
TORQUE CONTROL		+ Check tolerance cm3/1000s. : + 5.0 Spreed
Rated speed rpm	: 925	+ cm3/1000 strokes : 8.0
rack travel mm Tolerance mm	: 12.30 : + 0.05	+ Check tolerance + cm3/1000s. : 12.0
Rated speed rpm	: 750	Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 12.30 : +- 0.05	hPa : - Rated speed rpm : 500
		+ Del. quantity + cm3/1000 strokes : 132.5
ANEROID/ALTITUDE		+ cm3/1000 strokes : +- 1.0
COMPENSATOR TEST		Check tolerance cm3/1000s. : +- 4.0
SETTING		+ Spreed + cm3/1000 strokes : 8.0
		+ Check tolerance
Rated speed rpm Pressure hPa	: 600 : 1200	
rack travel mm	: 12.30	I -
Tolerance mm	: +- 0.05	BREAKAWAY
MEASUREMENT		Rack travel in mm : 11.30
Pressure hPa	; -	Rated speed rpm : 975
Rated speed rpm	: 600	Tolerance 1/min : +- 5
rack travel mm		†
Tolerance mm	: +- 0.10	Ī ————————————————————————————————————
Rated speed rpm	: 600	STARTING FUEL DELIVERY
Pressure hPa		Rated speed rpm : 100
rack travel mm		rack travel mm : 16.50
Tolerance mm	: +- 0.05	Tolerance mm : + 0.20 Del. quantity
Pressure hPa	: 800	cm3/1000 strokes : 400.0
rack travel mm	: 11.60	cm3/1000 strokes : +- 10.0
Tolerance mm	: +- 0.15	+ Check tolerance + cm3/1000s. : +- 14.0
START CUT-OUT		
Pated speed ppm	: > 100	
Rated speed rpm Rated speed rpm		LOW IDLE
Check		Rated speed rpm : 350
speed 1/min	: > 80	+ Del. quantity
Check		+ cm3/1000 strokes : 21.0 + cm3/1000 strokes : +- 3.0
speed 1/min	: < 290	Check tolerance
		+ cm3/1000s. : +- 6.0
FUEL DELIVERY CHA	ARACTERISTICS	Spreed
Aneroid pressure		+ cm3/1000 strokes : 8.0 + Check tolerance
hPa	: 1200	- cm3/1000s. : 12.0
Rated speed rpm	750	+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.11.96 Test oil : ISO 4113

Combination No. : 0 403 476 116

Injection pump

Pump designation : PES6MW100/720RS1131 EP type number : 0 413 406 123

Governor

Governer design. : RSV350...1300MW0A329

: -14

Governer no. : 0 420 085 192

Cust. part No. : 0220742202

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.75
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1280

Rack travel in mm : 10.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 89.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolonnoo	1		
Check tolerance cm3/1000s. : 6.0	, T	nock though mm	. / 00
cm3/1000s. : 6.0	T	rack travel mm Rated speed rpm	• 1/20
Rated speed rpm : 350	I	Rated Speed rpm	. 1420
Rated speed rpm . 330	I	ASSEMBLY GOVERNOR	SETTING
	I	ASSEMBLI GOVERNOR	SELLING
Rack travel in mm: 5.80	$_{ m I}$	Rated speed rom	• 1330
Tolerance mm : + 0.25	1	Rated speed rpm rack travel mm	• 950
Del. quantity	1	THE CT WEEL THEIR	. 7.30
cm3/1000 strokes : 12.0	1	Rated speed rpm	• 1414
cm3/1000 strokes : +- 2.0		Tolerance 1/min	: +- 4
Check tolerance	1	rack travel mm	
Check tolerance cm3/1000s. : +- 4.5	<u> </u>		
Spreed	1	Rated speed rpm	: 1331
cm3/1000 strokes : 3.5	1	rack travel mm	: 9.50
Check tolerance	4		
Check tolerance cm3/1000s. : 5.5	1	Rated speed rpm	: 1415
	1	Tolerance 1/min	: +- 4
	1	rack travel mm	4.00
(B) SETTING OF INJECTION PUM	P 1		
WITH GOVERNOR	` <u> </u>	Rated speed rom	: 1332
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	Rated speed rpm rack travel mm	: 9.50
	<u></u>		, ,,,,,
		Rated speed rpm	: 1416
GUIDE SLEEVE POSITION	<u> </u>	Tolerance 1/min	: +- 4
00100 000000 1 001,1017	1	rack travel mm	
Rated speed rpm : 800	1	. 40 0. 470	
Matea opeca (piii : 000	1	Rated speed rpm	• 1333
Rack travel in mm: 0.65	1	rack travel mm	• 9 50
Tolerance mm : +- 0.35		Table of a continue	. ,.,,
10001 01100 11111	1	Rated speed rpm	: 1417
		Tolerance 1/min	
FULL LOAD DELIVERY AT FULL L	OAD STOP	rack travel mm	4.00
TOCK BOND DELETION AT TOCK E	1	TOOK OF GIVE THE	
Rated speed rpm : 1280	1	Rated speed rom	: 1338
Aneroid pressure	1	Rated speed rpm rack travel mm	9.50
hPa : 800	1		, , , , ,
Del. quantity	1	Rated speed rpm	: 1422
cm3/1000 strokes : 89.0	1	Rated speed rpm Tolerance 1/min	: +- 4
cm3/1000 strokes : + 1.0	1	rack travel mm	
Check tolerance	1		
cm3/1000s. : + 3.0	1	Rated speed rpm	: 1339
Spreed	1	rack travel mm	: 9.50
cm3/1000 strokes : 3.5	1		
Check tolerance	1	Rated speed rpm	: 1423
cm3/1000s. : 6.0	1	Tolerance 1/min	
	1	rack travel mm	: 4.00
	1		
CONTROL LEVER	}	LOW IDLE	
	}		
control lever	+		
position degree : 114.0	+	control lever	
tolerance degree : + 4.0	+	position degree	: 79.0
	+	tolerance degree	
RATED SPEED	+	- -	
	1	Testing:	
rack travel mm : 1.00	1	•	
rack travel mm : 1.00 Tolerance mm : +- 0.70	1	Rated speed rpm	: 350
Tolerance mm : +- 0.70 Rated speed rpm : 1550	1		
	•		-

Tolerance mm	: + 0.25
rack travel mm	: 2.00
Rated speed rpm	: 450
Tolerance 1/min	: +- 30
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm	: 1280
rack travel mm	: 10.55
Tolerance mm	: +- 0.05
Rated speed rpm	
rack travel mm	
Tolerance mm	: ← 0.10
Rated speed rpm	
rack travel mm	: 10.90
Tolerance mm	: + 0.10
COMPENSATOR TEST	
COMPENSATOR TEST SETTING Rated speed rpm	: 500
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa	: 800
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm	: 800 : 10.25
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm	: 800
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800 : 10.25
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa	: 800 : 10.25 : +- 0.10
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: 800 : 10.25 : +- 0.10 : - : 500
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 800 : 10.25 : +- 0.10 : - : 500
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30 : + 0.10 : 500 : 470
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30 : + 0.10 : 500 : 470 : 10.60
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 800 : 10.25 : + 0.10 : - : 500 : 9.30 : + 0.10 : 500 : 470
ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 800 : 10.25 : + 0.10 :
COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800 : 10.25 : + 0.10 :

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure	: 800 : 800 : 88.0 : +- 1.5 : 4.0 : 5.0 : 7.0
hPa Rated speed rpm Del. quantity	: – : 500
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 50.0 : + 1.0
cm3/1000s.	;
	
STARTING FUEL DEL	.IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes cm3/1000 strokes Check tolerance	: 83.0 : + 5.0
cm3/1000s.	: +- 8.0

LOW IDLE		
Rated speed rpm	:	350
Del. quantity cm3/1000 strokes	:	12.0
cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s.	: +-	4.5
Spreed cm3/1000 strokes	:	3.5
Check tolerance		c c
cm3/1000s.	:	5.5

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 403 476 147

Injection pump

Pump designation : PES6MW100/72DRS1131

: -1

: 0 413 406 165 EP type number

Governor

: RSV750...1200MW0A329 Governer design.

: -17

: 0 420 085 291 Governer no.

Cust. part No. : 0270747902

Customer-spec. information : MB-NFZ Customer Motor : 0M366LA Power KW : 163.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : \leftarrow 1.0

Prestroke mm 3.65 : + 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1180

Rack travel in mm: 13.15 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 104.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance	RATED SPEED
cm3/1000s. : 6.0	
+	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1400
Rated speed rpm : 750	Tolerance mm : + 0.70
1	Rated speed rpm : 1400
Rack travel in mm : 4.70	ASSEMBLY GOVERNOR SETTING
Tolerance mm : + 0.25	
Del. quantity +	Rated speed rpm : 1230 rack travel mm : 12.10
cm3/1000 strokes : 12.0 + cm3/1000 strokes : + 2.0 +	rack travel mm : 12.10
Check tolerance	Rated speed rpm : 1314
Check tolerance cm3/1000s. : +- 4.5	Tolerance 1/min : +- 4
Spreed +	rack travel mm : 4.00
cm3/1000 strokes : 3.5	20-bad and down 4274
Check tolerance cm3/1000s. : 5.5	Rated speed rpm : 1231 rack travel mm : 12.10
CIID/ 10003 3.3	TOCK CEBVEL IMM . IZ.10
+	Rated speed rpm : 1315
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 4
WITH GOVERNOR	rack travel mm : 4.00
I	Rated speed rpm : 1232
+	Rated speed rpm : 1232 rack travel mm : 12.10
GUIDE SLEEVE POSITION	Data day and one A747
Rated speed rpm : 800	Rated speed rpm : 1316 Tolerance 1/min : +- 4
Mateu speed (piii . ooo	rack travel mm : 4.00
Rack travel in mm: 0.65	
Tolerance mm : + 0.35	Rated speed rpm : 1233 rack travel mm : 12.10
governor spring +	rack travel mm : 12.10
pre-tension +	Rated speed rpm : 1317
click setting x : 4.75	Tolerance 1/min : +- 4
+	rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Pated speed rpm · 1238
TOLL LOAD DELIVERY AT TOLL LOAD STOT	Rated speed rpm : 1238 rack travel mm : 12.10
Rated speed rpm : 1180	
Aneroid pressure +	Rated speed rpm : 1322
hPa : 1000 + Del. quantity +	Tolerance 1/min : +- 4 rack travel mm : 4.00
cm3/1000 strokes : 104.0	rack travet min . 4.00
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1239 rack travel mm: : 12.10
Check tolerance +	rack travel mm; : 12.10
cm3/1000s. : + 3.0	Rated speed rpm : 1323
Spreed + cm3/1000 strokes : 3.5 +	Tolerance 1/min : +- 4
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 6.0	
†	LOW IDLE
	LOW IDEE
CONTROL LEVER	
+	control lever
control lever + position degree : 103.0 +	position degree : 86.0 tolerance degree : +- 4.0
tolerance degree : +- 4.0 +	totel dilice degree . The Mid
1	Testing:
•	

Rated speed rpm	: 750
rack travel mm	: 4.70
Tolerance mm	: ← 0.25
rack travel mm	: 2.00
Rated speed rpm	: 785
Tolerance 1/min	: +- 25
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm	: 1180
rack travel mm	: 13.15
Tolerance mm	: + 0.05
Rated speed rpm	: 600
rack travel mm	: 13.15
Tolerance mm	: + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 500
Pressure hPa	: 1000
rack travel mm	: 13.15
Tolerance mm	: ← 0.05
MEASUREMENT	
Pressure hPa	: -
Rated speed rpm	: 500
Tolerance mm	: +- 0.10
Rated speed rpm	: 500
Pressure hPa	: 500
rack travel mm	: 2.25
Tolerance mm	: +- 0.15
Pressure hPa	: 350
rack travel mm	: 1.10
Tolerance mm	: + 0.05

Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes cm3/1000 strokes cm3/1000s.	 : 97.0 : + 1.5 : + 4.0 : 5.0 : 7.0 : - : 500 : + 3.0 : + 3.0
STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100
LOW IDLE Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 750 : 12.0 : + 2.0 : + 4.5 : 3.5 : 5.5

Aneroid pressure hPa : 1000 Rated speed rpm : 600

H04

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 22.11.96

Test oil

: ISO 4113

Combination No. : 9 400 087 473

Injection pump

Pump designation : PE6P12OA32ORS3178-1

EP type number : 0 411 826 764

Governor

Governer design. : RQV250...950PA921

: -13

Governer no.

: 0 421 813 796

Cust. part No. : 670 6804

Customer-spec. information

Customer

: VOLVO-TRUCK

Motor

: TD 122 FK, FR

Power KW

: 287.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

: 40

Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8 3

H05

x inside diameter: 3 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : 3.65

: +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.25

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 260.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

4.0 : +-

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s.

: 9.0

Rated speed rpm	: 250	+ Aneroid pressure		
natea speed (pii	. 230	+ hPa	: 1200	
		+ Del. quantity	. 1200	
Rack travel in mm	n: 4.95	- cm3/1000 strokes	: 260.0	
Tolerance mm		+ cm3/1000 strokes		
Del. quantity	0.13	+ Check tolerance		
cm3/1000 strokes	: 20.0	- cm3/1000s.	: +- 4.0	
cm3/1000 strokes		Spreed	• • •••	
Check tolerance		cm3/1000 strokes	: 5.0	
cm3/1000s.	: ← 5.5	Check tolerance	. 5.0	
Spreed		+ cm3/1000s.	; 9.0	
cm3/1000 strokes	: 5.0	1	. 7.0	
Check tolerance	. 5.0	Γ		
cm3/1000s.	: 7.0			
CIID7 10000.		CONTROL LEVER		
		+		
(B) SETTING OF IN	NJECTION PUMP	+ control lever		
WITH GOVERNOR		<pre>position degree</pre>		
		† tolerance degree	: +- 4.0	
CUIDE OF FEITH TO A	rick	- +		
GUIDE SLEEVE TRAN	AEF	control lever	. 121 0	
Datad award and	. 350	+ position degree		
Rated speed rpm	: 250	tolerance degree	. 4.0	
guide sleeve	. 1 20	T DATEN COPEN		
travel mm	: 1.20	+ RATED SPEED		
Tolerance mm	: + 0.20	—	. 47 20	
0 -4-4 1 -	. 005	rack travel mm	: 13.20	
Rated speed rpm	: 985	+ Rated speed rpm		
guide sleeve	. 8.20	† Tolerance 1/min	: +- 5	
travel mm	: 8.20	† , . , . , .	/ 00	
Tolerance mm	: + 0.10	+ rack travel mm	: 4.00	
	450	+ Rated speed rpm		
Rated speed rpm	: 450	+ Tolerance 1/min	: +- 15	
guide sleeve		†	5 55	
travel mm	: 3.90	+ rack travel mm	: 0.50	
Tolerance mm	: +- 0.30	+ Tolerance mm	: +- 0.50	
		+ Rated speed rpm	: 1200	
Rated speed rpm	: 700	+		
guide sleeve		+		
travel mm		1011 5015		
Tolerance mm	: ← 0.10	+ LOW IDLE		
Dated speed non	: 1060	İ		
Rated speed rpm	. 1000	control lever		
+novel me	: 9.60	+ position degree	• 45.0	
guide sleeve travel mm Tolerance mm	: +- 0.20	tolerance degree	· +- 4 0	
roterance mm	, 0.20	T cover ance degree	. r- 4.U	
		- control lever		
GUIDE SLEEVE POSI	TION	position degree	: 10.0	
		tolerance degree		
Rated speed rpm	: 1000	+		
is a second property of the contract of the co		+ Testing:		
Rack travel in mm	16.50	+		
Tolerance mm		Rated speed rpm	: 250	
	_	∔ rack travel mm	: 4.95	
		- + Tolerance mm	: +- 0.15	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	+		
		Rated speed rpm	: 100	
Rated speed rpm	: 700	+		
,		+ CRT mm min.	: > 6.50	
		•		
1104				

Rated speed rpm : 315

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 14.25 Tolerance mm : +- 0.05

ANEROID/ALTITUDE

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.25
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 865 rack travel mm : 3.80 Tolerance mm : +- 0.10

Pressure hPa : 100 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : - 700 Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 164.0
cm3/1000 strokes : +- 1.0
Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 13.20
Rated speed rpm: 995
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 290.0 cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 20.0 cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s. : + 5.5

Spreed

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.11.96 Test oil : ISO 4113

Combination No. : 0 400 874 256

Injection pump

Pump designation : PES4A95D410RS2877 EP type number : 0 410 894 988

Governor

Governer design. : RSV350...1400A0C819L

Governer no. : 0 420 232 617

Cust. part No. :

Customer—spec. information Customer : MB—NFZ Motor : OM364 Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.25
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.55 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 72.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

3.5

Check tolerance cm3/1000s. : 8.0	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 350	Rated speed rpm : 1433 rack travel mm : 9.55
Rack travel in mm : 6.70 Tolerance mm : + 0.20 Del. quantity	Rated speed rpm : 1488 Tolerance 1/min : '- 6 rack travel mm : 4.00
cm3/1000 strokes : 12.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000S. : 9.0	Rated speed rpm : 1434 rack travel mm : 9.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1489 Tolerance 1/min : +- 6 rack travel mm : 4.00
WITH GOVERNOR	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
GUIDE SLEEVE POSITION Rated speed rpm : 800	Rated speed rpm : 1435 rack travel mm : 9.55
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Rated speed rpm : 1490 Tolerance 1/min : + 6 rack travel mm : 4.00
governor spring pre-tension click setting x : 4.00	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
FULL LOAD DELIVERY AT FULL LOAD STO	P Rated speed rpm : 1436 rack travel mm : 9.55
Rated speed rpm : 1380 Aneroid pressure hPa : - Del. quantity	Rated speed rpm : 1491 Tolerance 1/min : +- 6 rack travel mm : 4.00
cm3/1000 strokes : 72.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1620
Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 1437 rack travel mm : 9.55
CONTROL LEVED	Rated speed rpm : 1492 Tolerance 1/min : + 6 rack travel mm : 4.00
control lever position degree : 111.0	rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1620
tolerance degree : +- 4.0	Rated speed rpm : 1438 rack travel mm : 9.55

Rated speed rpm : 1493
Tolerance 1/min : + 6
rack travel mm : 4.00
rack travel mm : 1.00

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1620

LOW IDLE

control lever

position degree : 80.0 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350 rack travel mm : 6.70 Tolerance mm : + 0.20

rack travel mm : 2.00
Rated speed rpm : 455
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 455 rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1400 rack travel mm : 10.55 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 10.60 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 400

Del. quantity cm3/1000 strokes : 51.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 16.20 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 83.0 cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm : 350

Del. quantity
cm3/1000 strokes : 12.0
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
cm3/1000 strokes : 5.5
Check tolerance
cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25.11.96 : ISO 4113

Combination No. : 0 400 876 430

Injection pump

Pump designation : PES6A95D41DRS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A0C2263

: -10L

Governer no. : 0 420 232 619

Cust. part No. : 87 800 862

Customer-spec. information

Customer : FNH-GEOTECH

: P 396 Motor : 142.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.20 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 154.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 8.0	ASSEMBLY GOVERNOR SETTING
Rated speed rpm : 450	Rated speed rpm : 1093 rack travel mm : 12.40
Rack travel in mm: 5.60 Tolerance mm: + 0.10 Del. quantity	Rated speed rpm : 1158 Tolerance 1/min : - 5 rack travel mm : 4.00
cm3/1000 strokes : 15.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
Spreed cm3/1000 strokes : 5.5 Check tolerance cm3/1000S. : 9.0	Rated speed rpm : 1094 rack travel mm : 12.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1159 Tolerance 1/min : + 5 rack travel mm : 4.00
	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
GUIDE SLEEVE POSITION Rated speed rpm : 800	Rated speed rpm : 1095 rack travel mm : 12.40
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1160 Tolerance 1/min : +- 5 rack travel mm : 4.00
governor spring pre-tension click setting x : 4.00	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1096 rack travel mm : 12.40
Rated speed rpm : 750 Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 1161 Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000 strokes : 154.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 1097 rack travel mm : 12.40
	Rated speed rpm : 1162 Tolerance 1/min : + 5 rack travel mm : 4.00
control lever position degree : 97.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
tolerance degree : +- 4.0	Rated speed rpm : 1098 rack travel mm : 12.40

Rated speed rpm	: 1163
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm Tolerance mm Rated speed rpm	: ← 0.55
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 450
rack travel mm	: 5.10
Testing:	
Rated speed rpm	: 450
rack travel mm	: 5.60
Tolerance mm	: + 0.10
rack travel mm	: 2.00
Rated speed rpm	: 575
Tolerance 1/min	: + 30
TORQUE CONTROL	
Rated speed rpm	: 750
rack travel mm	: 15.20
Tolerance mm	: + 0.05
Rated speed rpm	: 500
rack travel mm	: 15.25
Tolerance mm	: + 0.10
Rated speed rpm	: 1050
rack travel mm	: 12.90
Tolerance mm	: + 0.05
Rated speed rpm	: 1050
rack travel mm	: 13.40
Tolerance mm	: + 0.10
Rated speed rpm	: 950
rack travel mm	: 14.25
Tolerance mm	: + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	

SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 15.25 : + 0.10	
MEASUREMENT		
Pressure hPa Rated speed rpm	: - : 500	

Pressure hPa : Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : + 0.05
Rated speed rpm : 500

Pressure hPa : 750 rack travel mm : 13.70 Tolerance mm : $\leftarrow 0.05$

Pressure hPa : 500 rack travel mm : 11.80 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 76.5
cm3/1000 strokes : +- 1.0
Check tolerance
7/1000s : +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : \leftarrow 0.20 Del. quantity cm3/1000 strokes : 163.0 cm3/1000 strokes : \leftarrow 8.0 Check tolerance cm3/1000s. : \leftarrow 11.0

LOW IDLE

Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 15.0

cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	4.5
Spreed cm3/1000 strokes	:	5.5
Check tolerance cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Test oil : ISO 4113

Combination No. : 0 402 036 762

Injection pump

Pump designation : PES6P110A120RS3353 EP type number : 0 412 016 752

Governor

Governer design. : RQV450...1100PA1233

: -1K

: D 421 815 479 Governer no.

Cust. part No. : 3926776

Customer-spec. information Customer : CDC : 6CTA Motor Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +-Tolerance °C 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar $: \leftarrow 0.1$

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

17.0 Test pressure bar : Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.00 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no.

Beginning of delivery differende

and maximum rack

13.00 travel Difference * CS : 1.20

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.15 Tolerance mm : \leftarrow 0.05

Del. quantity 206.5

cm3/1000 strokes :

cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Del. quantity cm3/1000 strokes : 206.5 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Rated speed rpm : 500	CONTROL LEVER
Rack travel in mm: 5.90 Tolerance mm: + 0.20 Del. quantity cm3/1000 strokes: 21.5 cm3/1000 strokes: + 3.0 Check tolerance cm3/1000S.: + 5.0 Spreed cm3/1000 strokes: 4.0 Check tolerance cm3/1000 strokes: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 117.0 tolerance degree : + 6.0 RATED SPEED rack travel mm : 11.45 Rated speed rpm : 1160 Tolerance 1/min : + 15 rack travel mm : 6.45 Rated speed rpm : 1230 Tolerance 1/min : + 5 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
GUIDE SLEEVE TRAVEL	-
Rated speed rpm : 500 - guide sleeve travel mm : 1.82 - Tolerance mm : + 0.25	LOW IDLE control lever position degree : 79.0 tolerance degree : +- 6.0
guide sleeve - travel mm : 8.09 -	├ ├ Testing:
Tolerance mm : + 0.15	+
Rated speed rpm : 890 - guide sleeve - travel mm : 4.75 - Tolerance mm : + 0.25	Rated speed rpm : 500 rack travel mm : 5.90 Tolerance mm : +- 0.20 Rated speed rpm : 400
Rated speed rpm : 1570 -	CRT mm min. :> 7.50
guide sleeve - travel mm : 13.50 - Tolerance mm : +- 0.50 -	Rated speed rpm : 500
FIRE LOAD DELTUEDY AT SHIPL LOAD STOD	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000 Aneroid pressure hPa : 1200	Rated speed rpm : 1000 rack travel mm : 13.15 Tolerance mm : + 0.05

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	4	Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : 1200 Rated speed rpm : 1100 Del. quantity cm3/1000 strokes : 190.5
ANEROID/ALTITUDE COMPENSATOR TEST		- cm3/1000 strokes : + 2.0 - Check tolerance - cm3/1000s. : + 5.0
SETTING Rated speed rpm Pressure hPa	: 1000	- Aneroid pressure - hPa : - - Rated speed rpm : 1000 - Del. quantity
MEASUREMENT	1	- cm3/1000 strokes : 124.0 - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.15 : + 0.20	BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	4	Rack travel in mm : 11.45 Rated speed rpm : 1160 Tolerance 1/min : + 15
Pressure hPa	: 580	STARTING FUEL DELIVERY
rack travel mm Tolerance mm START CUT-OUT	: +- 0.20	- Rated speed rpm : 100 - rack travel mm : 21.00 - Tolerance mm : + 0.50 - Del. quantity
Rated speed rpm Rated speed rpm		- cm3/1000 strokes : 161.0 - cm3/1000 strokes : +- 20.0 - Check tolerance - cm3/1000s. : +- 25.0
Check speed 1/min Check speed 1/min	: > 80	• •
FUEL DELIVERY CHA		- LOW IDLE - - Rated speed rpm : 500
Aneroid pressure hPa Rated speed rpm	: 1200	Del. quantity - cm3/1000 strokes : 21.5 - cm3/1000 strokes : +- 3.0 - Check tolerance
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 197.5	- cm3/1000s. : +- 5.0 - Spreed - cm3/1000 strokes : 4.0 - Check tolerance
Check tolerance cm3/1000s. Spreed cm3/1000 strokes	: ← 6.0 : 8.0	cm3/1000s. : 8.0
	'	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 621

Injection pump

Pump designation : PES6P120A720RS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...875PA944

: -24K

Governer no. : 0 421 815 535

Cust. part No. : 313GC5223-P14

Customer-spec. information Customer : MACK : EM7-300 Motor : 224.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.30 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 12.00 Tolerance mm : +- 1.00

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm : 14.10 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes	• 312.0	<u> </u>
cm3/1000 strokes		FULL LOAD DELIVERY AT FULL LOAD STOP
	; +- 1.0	Rated speed rpm : 875
Check tolerance cm3/1000s.	: ← 4.0	+ Aneroid pressure + hPa : 1200 + Del. quantity
Spreed cm3/1000 strokes	: 5.0	cm3/1000 strokes : 312.0 cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s.	: 9.0	cm3/1000s. : +- 4.0 + Spreed + cm3/1000 strokes : 5.0
Rated speed rpm	: 340	Check tolerance cm3/1000s. : 9.0
Rack travel in mm	1: 5.10	T
Tolerance mm		
Del. quantity cm3/1000 strokes	: 40.0	+ CONTROL LEVER
cm3/1000 strokes		T control lever
Check tolerance		position degree : 103.0
cm3/1000s.	: 	tolerance degree : + 4.0
Spreed cm3/1000 strokes Check tolerance	: 8.0	RATED SPEED
cm3/1000s.	: 12.0	rack travel mm : 13.00 Rated speed rpm : 930
(B) SETTING OF IN	WECTTON PUMP	+ Tolerance 1/min : + 5
WITH GOVERNOR	02071077 1 0111	rack travel mm : 4.00
		Rated speed rpm : 1115
GUIDE SLEEVE TRAV	FI	Tolerance 1/min : + 15
GOIDE GEELVE TRAIT		rack travel mm : 0.50
Rated speed rpm guide sleeve		Tolerance mm : + 0.50 Rated speed rpm : 1210
travel mm Tolerance mm	: 1.92 : +- 0.20	‡
Rated speed rpm	: 939	LOW IDLE
guide sleeve	7.54	†
travel mm Tolerance mm	: 7.51 : + 0.15	+ control lever
TOTEL GIFCE TIME		position degree : 65.0
Rated speed rpm guide sleeve		tolerance degree : +- 4.0
travel mm Tolerance mm	: 5.63 : +- 0.25	+ Testing:
Rated speed rpm	: 510	Rated speed rpm : 340 rack travel mm : 5.10
guide sleeve travel mm	: 3.81	Tolerance mm : +- 0.10
Tolerance mm	: + 0.25	Rated speed rpm : 275
Rated speed rpm guide sleeve	: 1370	CRT mm min. : > 6.06
travel mm Tolerance mm	: 13.50 : +- 0.50	Rated speed rpm : 425

		+
		+ Aneroid pressure
TORQUE CONTROL		+ hPa : 1200
		Rated speed rpm : 510
Rated speed rpm	: 875	+ Del. quantity
rack travel mm	: 14.10	+ cm3/1000 strokes : 402.0
Tolerance mm	: 0.05	+ cm3/1000 strokes : $+$ 3.0
		+ Check tolerance
Rated speed rpm	: 510	+ cm3/1000s. : +- 6.0
rack travel mm		+ Spreed
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : 8.0
m-4 1 . 1 1	/25	+ Check tolerance
Rated speed rpm	: 625 : 14.70	+ cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 14.70	†
loterance mm	: ← 0.20	+ Aneroid pressure
Dadad anaad aan	. /00	+ hPa : -
Rated speed rpm	• 400 • 1/, 25	Rated speed rpm : 400
rack travel mm	; 14.62 ; _ 0.20	Del. quantity
Tolerance mm	: + 0.20	+ cm3/1000 strokes : 187.5 + cm3/1000 strokes : + 2.0
		+ Cm3/1000 strokes : + 2.0 + Check tolerance
ANEDOTO / AL TITUDE		+ theck tolerance + cm3/1000s. : + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		T (1115/10005. : T 4.0
COMPENSATUR TEST		I
		BREAKAWAY
SETTING		
		+
Rated speed rpm Pressure hPa	: 510	+ Rack travel in mm : 13.00
Pressure hPa	: 1200	Rated speed rpm : 930
		<pre>→ Tolerance 1/min : + 5</pre>
MEASUREMENT		+
Pressure hPa	• –	†
Rated speed rpm	: 510 : 9.20	T STARTING FUEL DELIVERY
nack than a man	. 920	1 STARTING FOLL DELIVERT
rack travel mm Tolerance mm	: +- 0.20	Rated speed rpm : 100
rocer drice him	. , 0.20	rack travel mm : 21.00
Rated speed rpm	; 510	+ Tolerance mm : +- 0.50
nated speed i pili	, 310	+ Del. quantity
Pressure hPa	: 740	+ cm3/1000 strokes : 190.0
rack travel mm	: 13.20	+ cm3/1000 strokes : +- 20.0
Tolerance mm	: +- 0.20	+ Check tolerance
		+ cm3/1000s. : + 30.0
Pressure hPa	: 400	+
rack travel mm	: 10.60	+
Tolerance mm	: +- 0.05	
, , , , , , , , , , , , , , , , , , , ,		
OTART OUT OUT		LOW IDLE
START CUT-OUT		Rated speed rpm : 340
Rated speed rpm	• > 100	Rated speed rpm : 340 Del. quantity
		+ cm3/1000 strokes : 40.0
Rated speed rpm	. ` 250	+ cm3/1000 strokes : +- 3.0
Check		Check tolerance
speed 1/min	: > 80	+ cm3/1000s. : +- 5.0
speed //min Check	. > 00	Spreed
speed 1/min	: < 255	cm3/1000 strokes : 8.0
opecu (/iii(i)		Check tolerance
		cm3/1000s. : 12.0
FUEL DELIVERY CHA	RACTERISTICS	-
		r

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 401 496 003

Injection pump

Pump designation : PE6R120/720RS1504

EP type number : 0 411 426 003

Governor

Governer design. : RE31

Governer no. : 0 421 890 200

Cust. part No. : 1556415

: -P10v20.11.96

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD 164 Power KW : 382.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V			
TESTING & SETTING POSITION	RACK TRAVEL SENSOR		
Engine speed min-	1: 0		
Setting point (P, R and H pump)			
Uact V CRT mm Tolerance mm Check tolerance mm	: 3.100 : 13.00 : +/- 0.05 : +/- 0.10		
Check value (P, R and H pump)			
Uact V CRT mm Tolerance mm Check tolerance mm	: 1.700 : 6.15 : +/- 0.25 : +/- 0.30		
Setting point (M pump)			
Uact V CRT mm Tolerance mm Check	: 3.100 : 12.50 : +/- 0.05		
tolerance mm	: +/- 0.10		
Check value (M pump)			
Uact V CRT mm Tolerance mm	: 1.700 : 5.50 : +/- 0.25		
Check tolerance mm	: +/- 0.30		
Stop position			
Uact V deene	: Value with rgised adjusting magnet and control rod in stop position.		
CRT mm Tolerance mm	: 0.75 : +/- 0.25		
Check tolerance mm	: +/- 0.35		

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: 60 Amplitude V : 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 525 2.950 Uact V Del. quantity cm3/1000 strokes : 390.0 cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/100C strokes : 6.0 Check tolerance cm3/1000s. 10.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm : Uact V 3.240 Del. quantity cm3/1000 strokes : 386.0 cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 9.0 Check tolerance cm3/1000s. : 13.0 Rated speed rpm : 900 Uact V 2.000 Del. quantity cm3/1000 strokes : 163.0 cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s.

: +- 6.0

TEST POINT L1

Rated speed rpm Rated speed rpm Uact V Uact V Tolerance Volt	: 265 : 265 : 1.630 : 1.630 : +- 0.060
Check tolerance Volt	: +- 0.060
Del. quantity	0.000
cm3/1000 strokes	: 19.0
Del. quantity	
cm3/1000 strokes	: 20.0
cm3/1000 strokes	: ← 3.0
cm3/1000 strokes	: ← 3.0
Spreed	
cm3/1000 strokes	; 7.0
cm3/1000 strokes	: 7.0
Check tolerance	
cm3/1000s.	: 11.0
Check tolerance	
cm3/1000s.	: 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.11.96 Edition Test oil : ISO 4113

Combination No. : 0 402 046 875

Injection pump

Pump designation : PES6P110A320RS3329Z

EP type number : 0 412 016 744

Governor

Governer design. : RQV325...1250PA1251

Governer no. : 0 421 814 164

Cust. part No. : 1309376/0

Customer-spec. information Customer : DAF : NS156M Motor Power KW : 156.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50Tolerance mm : +-0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85

Tolerance mm : +- 0.05

		+ Tolerance mm : + 0.50
Del. quantity cm3/1000 strokes	: 144.0	GUIDE SLEEVE POSITION
cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1370
Check tolerance cm3/1000s.	: + 4.0	Rack travel in mm: 10.85 Tolerance mm: + 1.30
Spreed cm3/1000 strokes	: 4.0	Toterance into
Check tolerance	-	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.		+ Rated speed rpm : 1000 + Aneroid pressure
Rated speed rpm	: 325	hPa : 1500 Del. quantity
Rack travel in mr Tolerance mm		+ cm3/1000 strokes : 144.0 + cm3/1000 strokes : +- 1.0 + Check tolerance
Del. quantity cm3/1000 strokes		cm3/1000s. : + 4.0 Spreed
cm3/1000 strokes Check tolerance	: +- 2.5	cm3/1000 strokes : 4.0 Check tolerance
cm3/1000s. Spreed	: +- 5.0	- cm3/1000s. : 7.5
cm3/1000 strokes Check tolerance	-	
cm3/1000s.	: 15.0	+ CONTROL LEVER + control lever
		_ CONTRO! 6\/6r
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	position degree : 123.0 tolerance degree : +- 4.0
	·	position degree : 123.0 tolerance degree : +- 4.0 RATED SPEED
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve	/EL : 325	position degree : 123.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAN		position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	/EL : 325 : 1.25	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.25 : + 0.20	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	/EL : 325 : 1.25 : + 0.20 : 1298 : 10.25 : + 0.15 : 863	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	/EL : 325 : 1.25 : + 0.20 : 1298 : 10.25 : + 0.15	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	/EL : 325 : 1.25 : + 0.20 : 1298 : 10.25 : + 0.15 : 863 : 5.41	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	/EL : 325 : 1.25 : + 0.20 : 1298 : 10.25 : + 0.15 : 863 : 5.41 : + 0.25	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 325 : 1.25 : + 0.20 : 1298 : 10.25 : + 0.15 : 863 : 5.41 : + 0.25 : 520 : 3.02	position degree : 123.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1375 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500 LOW IDLE control lever position degree : 76.0

rack travel mm : 4.50 : +- 0.10 Tolerance mm Rated speed rpm : 225 CRT mm min. :> 6.00Rated speed rpm 375 : TORQUE CONTROL Rated speed rpm : 1000 rack travel mm : 11.85 Tolerance mm : +- 0.05 Rated speed rpm : 700 rack travel mm : 11.85 Tolerance mm : + 0.10 Rated speed rpm : 1250 rack travel mm : 11.85 : +- 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 600 Pressure hPa : 1500 rack travel mm : 11.85 Tolerance mm : + 0.05 MEASUREMENT Pressure hPa Rated speed rpm : 600 7.35 rack travel mm Tolerance mm : +- 0.20 Rated speed rpm : 600 Pressure hPa 370 rack travel mm 10.75 : +- 0.05 Tolerance mm Pressure hPa 200 rack travel mm 8.40 Tolerance mm : +- 0.10 FUEL DELIVERY CHARACTERISTICS Rated speed rpm : 700 Del. quantity $cm3/1000 \text{ strokes} : 145.0 \\ cm3/1000 \text{ strokes} : + 3.0$ Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure Rated speed rpm : 1000 Del. quantity cm3/1000 strokes : 94.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : +- 3.5 BREAKAWAY Rack travel in mm : 10.85 Rated speed rpm : 1300 Tolerance 1/min : + 5 LOW IDLE Rated speed rpm : 325

Rated speed rpm : 325

Del. quantity

cm3/1000 strokes : 26.0

cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s. : + 5.0

Spreed

cm3/1000 strokes : 12.0

Check tolerance

cm3/1000s. : 15.0

End of test specification sheet

Aneroid pressure

hPa : 1500

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.11.96 Test oil : ISO 4113

Combination No. : 0 402 076 7486

Injection pump

Pump designation : PES6P110A720RS3305

: -1

EP type number : 0 412 016 742

Governor

Governer design. : RSV300...1100P1A555

Governer no. : 0 421 833 379

Cust. part No. : 9271056

Customer—spec. information
Customer : LIEBHERR
Motor : D 926 TI
Power KW : 218.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 130 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 207.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.20
Tolerance mm : + 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.30
Tolerance mm : + 0.05

Rated speed rpm Tolerance 1/min	: 925 : +- 5
rack travel mm	: 4.00
Rated speed rpm	: 980
Tolerance 1/min	: + 15
rack travel mm	: 0.85
Tolerance mm	: ← 0.55
Rated speed rpm	: 1260
rack travel mm	: 4.00
Rated speed rpm	: 995
LOW IDLE	
control lever position degree tolerance degree	: 75.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 500
rack travel mm	: 3.90
Testing:	
Rated speed rpm	: 500
rack travel mm	: 4.40
Tolerance mm	: + 0.10
TORQUE CONTROL	
Rated speed rpm	: 900
rack travel mm	: 12.30
Tolerance mm	: +- 0.05
Rated speed rpm	: 500
rack travel mm	: 12.30
Tolerance mm	: + 0.10
Rated speed rpm	: 700
rack travel mm	: 12.30
Tolerance mm	: + 0.10
Rated speed rpm	: 450
rack travel mm	: 13.70
Tolerance mm	: + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	

rack travel mm : 10.85

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 550 : 1150 : 12.30 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 550 : 9.45 : + 0.10
Rated speed rpm	: 550
Pressure hPa rack travel mm Tolerance mm	: 800 : 11.80 : ← 0.05
Pressure hPa rack travel mm Tolerance mm	: 670 : 10.35 : ← 0.10
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa	: 1150
Rated speed rpm	: 500
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 203.0 : + 2.0 : + 5.0
Ameroid pressure hPa Rated speed rpm	: 1150 : 700
Del. quantity cm3/1000 strokes	: 196.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 5.0
Aneroid pressure hPa Rated speed rpm	: - : 550
Del. quantity	
cm3/1000 strokes cm3/1000 strokes	: 143.0 : + 1.0
Check tolerance cm3/1000s.	: +- 3.5
BREAKAWAY	<u></u>

Rated speed rpm	:	925
Tolerance 1/min	: +	- 5

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	: +-	0.50
Del. quantity		
cm3/1000 strokes	:	145.0
cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	: +-	14.0

LOW IDLE

Rated speed rpm Del. quantity	: 400
cm3/1000 strokes cm3/1000 strokes	: 30.0 : + 3.0
Check tolerance cm3/1000S. Spreed	: +- 5.5
cm3/1000 strokes Check tolerance	: 4.5
cm3/1000s.	: 7.5

End of test specification sheet

BREAKAWAY

Rack travel in mm : 10.85

J03

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 784

Injection pump

Pump designation : PE8P12OA32OLS7845 EP type number : 0 412 628 861

Governor

Governer design. : RQV350...1050PA1324

Governer no. : 0 421 814 187

Cust. part No. : 0280740202

Customer-spec. information
Customer : MB-NFZ
Motor : 0M402 LA
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55
Tolerance mm : ← 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance $^{\circ}NW$: +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

	4= 44		
Rack travel in mn Tolerance mm	13.80 : +- 0.05		
Del. quantity cm3/1000 strokes	: 208.0		
cm3/1000 strokes	: + 1.0		
Check tolerance cm3/1000s.	: +- 4.0		
Spreed cm3/1000 strokes	: 6.0		
Check tolerance cm3/1000s.	: 9.0		
Rated speed rpm	: 350		
Rack travel in mm Tolerance mm Del. quantity	: 4.40 : + 0.10		
cm3/1000 strokes cm3/1000 strokes	: 13.0 : +- 3.0		
Check tolerance cm3/1000s.	: +- 6.0		
Spreed cm3/1000 strokes	: 6.0		
Check tolerance cm3/1000s.	: 10.0		
(B) SETTING OF INJECTION PUMP WITH GOVERNOR			
GUIDE SLEEVE TRAV	EL		
Rated speed rpm guide sleeve	: 350		
travel mm	: 2.02		
Tolerance mm	: + 0.20		
Rated speed rpm	: ← 0.20		
	: ← 0.20		
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.20 : 1107 : 8.18 : + 0.15		
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.20 : 1107 : 8.18 : + 0.15		
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.20 : 1107 : 8.18 : + 0.15 : 890 : 5.70		

Rated speed rpm : 1197 guide sleeve travel mm : 10.00 Tolerance mm : + 0.25 Rated speed rpm : 1290 guide sleeve travel mm : 11.50 Tolerance mm : + 0.50
GUIDE SLEEVE POSITION
Rated speed rpm : 1154
Rack travel in mm : 12.90 Tolerance mm : + 1.30
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1050 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 208.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0
CONTROL LEVER
control lever position degree : 119.0 tolerance degree : + 4.0 RATED SPEED
rack travel mm : 12.80 Rated speed rpm : 1095
Tolerance 1/min : +- 5
rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : + 15
rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1350
LOW IDLE

	+	
control lever	1	Check
position degree	. 68.0	speed 1/min : > 80
tolerance degree	: + 40	Check
toter ance degree	T	speed 1/min : < 280
Tootings	T	speed 1/mill . \ Zou
Testing:	7	
Data damarda	. 750	FUEL NELTWERY CHARACTERISTICS
Rated speed rpm	330	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	1 4.40	August d. 11 11 11 11 11 11 11 11 11 11 11 11 11
tolerance mm	: + 0.10	Aneroid pressure hPa : 1200
Bakad award was	. 350	
Rated speed rpm	: 250 †	Rated speed rpm : 700
ODT on oil	T	Del. quantity cm3/1000 strokes : 234.0
CRT mm min.	: > \(\cdot\)>0	CM3/1000 Strokes : 234.0
Data da anna da anna	145	cm3/1000 strokes : + 2.0
Rated speed rpm	; 415	Check tolerance cm3/1000s. : +- 5.0
	†	CM3/10008. : +- 5.0
		Spreed
TORQUE CONTROL	†	cm3/1000 strokes : 8.0
	t	Check tolerance
Rated speed rpm	: 1050 +	cm3/1000s. : 12.0
rack travel mm Tolerance mm	: 13.80	
Tolerance mm	: + 0.05 +	Aneroid pressure
	+	hPa : 1200
Rated speed rpm	: 700	Rated speed rpm : 1050
rack travel mm	: 14.30 +	Del. quantity cm3/1000 strokes : 156.0
Tolerance mm	: +- 0.05	cm3/1000 strokes : 156.0
	†	cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 1050 +	Check tolerance cm3/1000s. : +- 5.0
rack travel mm	: 11.60 +	cm3/1000s. : \leftarrow 5.0
Tolerance mm	: +- 0.15 +	
	†	Aneroid pressure
		hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE	+	Rated speed rpm : 500
COMPENSATOR TEST	+	Del. quantity cm3/1000 strokes : 135.0
	+	cm3/1000 strokes : 135.0
	+	cm3/1000 strokes : +- 1.0
SETTING	+	Check tolerance
	+	cm3/1000s. : + 4.0
Rated speed rpm	: 500 +	Spreed
Pressure hPa	: - +	cm3/1000 strokes : 8.0
	+	Check tolerance
MEASUREMENT	+	cm3/1000s. : 12.0
	+	
Pressure hPa	: 350 +	
Rated speed rpm		BREAKAWAY
rack travel mm		
Tolerance mm	: + 0.05 +	- · · · · · · · · · · · · · · · · · · ·
	+	Rack travel in mm : 12.80
Rated speed rpm	: 500 +	Rated speed rpm : 1095
	+	Tolerance 1/min : +- 5
Pressure hPa	: 750 +	
rack travel mm		
Tolerance mm	: ← 0.10 +	
	+	STARTING FUEL DELIVERY
START CUT-OUT	+	Rated speed rpm : 100
	+	Del. quantity
Rated speed rpm	: > 100 +	cm3/1000 strokes : 250.0
Rated speed rpm	T .	cm3/1000 strokes : +- 10.0
Maren Speen ing	: \ 2/0 #	CIID/ 1000 Strokes . The 10.0

Check t	olerance
---------	----------

cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 13.0 cm3/1000 strokes : + 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 402 648 981

Injection pump

Pump designation : PE8P120A320LS7839

: -10

EP type number : 0 412 628 855

Governor

Governor design. : RQ300/950PA971-10

Governer no. : 0 421 801 754

Cust. part No. : 0250749002

Customer—spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 14.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 te : + 0.30

Tolerance Check

eck

tolerance °NW : + 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 550

Rack travel in m Tolerance mm	15.20 : + 0.05	+ Rated + guide + travel + Tolera
Del. quantity cm3/1000 strokes	: 289.0	Rated
cm3/1000 strokes	: + 1.0	+ guide + travel + Tolera
Check tolerance cm3/1000s.	: + 4.0	- GUIDE
Spreed cm3/1000 strokes	: 6.0	Rated
Check tolerance cm3/1000s.	: 9.0	Rack t
Rated speed rpm	: 300	† + + FULL L
Rack travel in mm	5.20 : +- 0.10	Rated Aneroi
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance		+ Del. q + cm3/10 + cm3/10
cm3/1000s. Spreed cm3/1000 strokes	: ← 6.0 : 6.0	+ Check + cm3/10 + Spreed
Check tolerance cm3/1000s.	: 10.0	- cm3/10 - check - cm3/10
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	- CONTRO
GUIDE SLEEVE TRAV	EL	contro
Rated speed rpm	: 300	+ positi + tolera
guide sleeve travel mm Tolerance mm	: 1.72 : +- 0.20	RATED
Rated speed rpm guide sleeve	: 1005	+ rack t + Rated + Tolera
travel mm Tolerance mm	: 6.34 : +- 0.15	+ rack t
Rated speed rpm guide sleeve	: 950	+ Rated + Tolera
travel mm Tolerance mm	: 6.00 : +- 0.10	+ rack t + Tolera + Rated
Rated speed rpm guide sleeve		+
travel mm Tolerance mm	: 3.81 : + 0.10	LOW ID

Rated speed rpm guide sleeve travel mm Tolerance mm	: 580 : 6.00 : + 0.10
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1190 : 11.50 : +- 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 600
Rack travel in mm Tolerance mm	: 20.00 : ← 0.80
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 550
hPa Del. quantity	: 1200
cm3/1000 strokes cm3/1000 strokes	: 289.0 : +- 1.0
Check tolerance cm3/1000s.	: ← 4.0
Spreed cm3/1000 strokes	
Check tolerance cm3/1000s.	: 9.0
Cm5/10003.	. 7.0
CONTROL LEVER	
control lever position degree tolerance degree	: 98.0 : +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 14.20 : 998 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1100 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.75 : ← 0.75 : 1250
LOW IDLE	

control lever position degree tolerance degree	: 72.0 : +- 4.0	-
Testing:		-
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.20 : + 0.10	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 390 : + 40	1
Rated speed rpm	: 200	-
CRT mm min.	: > 7.20	1
TORQUE CONTROL		•
Rated speed rpm rack travel mm Tolerance mm	: 550 : 15.20 : + 0.05	1 1
Rated speed rpm rack travel mm Tolerance mm	: 950 : 15.20 : + 0.10	1. 1. 1. 1.
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		7
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 400 : 1200 : 15.20 : + 0.05	
MEASUREMENT		1
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 8.25 : + 0.15	-
Rated speed rpm	: 400	7
Pressure hPa rack travel mm Tolerance mm	: 300 : 9.95 : +- 0.20	+
Pressure hPa rack travel mm Tolerance mm	: 500 : 11.65 : ← 0.20	†
		I

START CUT-OUT	
Pated speed nam	: > 100
Rated speed rpm	
Rated speed rpm	: < 220
Check	
speed 1/min	: > 80
Check	
speed 1/min	: < 240
speed minn	. \ 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa	: 1200
	: 950
Rated speed rpm	; 950
Del. quantity	
cm3/1000 strokes	
cm3/1000 strokes	: 3.0
Check tolerance	
cm3/1000s.	
CIRS/ TUUUS.	: 6.0
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes	: 136.0
cm3/1000 strokes	: ← 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0
BDEAKAUAY	
BREAKAWAY	
BREAKAWAY	
	44.22
Rack travel in mm	
	ກ : 14.20 : 998
Rack travel in m Rated speed rpm	
Rack travel in mm	: 998
Rack travel in m Rated speed rpm	: 998
Rack travel in m Rated speed rpm	: 998
Rack travel in mm Rated speed rpm Tolerance 1/min	: 998 : +- 5
Rack travel in m Rated speed rpm	: 998 : +- 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min	: 998 : +- 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 998 : + 5
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0
Rack travel in mm Rated speed rpm Tolerance 1/min STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 998 : + 5 IVERY : 100 : 255.0 : + 20.0

Rated speed rpm Del. quantity	:		300
cm3/1000 strokes	:		19.0
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+-	6.0
Spreed			
cm3/1000 strokes	:		6.0
Check tolerance cm3/1000s.	:		10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.11.96 : ISO 4113

Combination No. : 0 402 746 609A

Injection pump

Pump designation : PES6P130A720RS7411

EP type number : 0 412 736 808

Governor

Governer design. : RQ275/950PA1274

Governer no. : 0 421 801 807

Cust. part No. : 221 574

Customer-spec. information

Customer : RABA

: SIEHE BEMERKUNG : 190.0 Motor

Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160
Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.50 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 1-5- 3- 6- 2-

Phasing : 0-00 : -300 : 0-60-120-180-240

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : + 0.50

Check

: +- 0.75 tolerance *NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.60

Tolerance mm : \leftarrow 0.05

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	+	Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes	: 246.0	Rated speed rpm : 1290 guide sleeve
cm3/1000 strokes	: + 1.0	travel mm : 11.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s.	: + 4.0	GUIDE SLEEVE POSITION
Spreed	Ţ	
cm3/1000 strokes	: 5.0	Rated speed rpm : 1147
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 11.60 Tolerance mm : +- 1.30
Rated speed rpm	: 275	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mo		Rated speed rpm : 600 Aneroid pressure
Del. quantity	+	hPa : 1500
cm3/1000 strokes cm3/1000 strokes		Del. quantity cm3/1000 strokes : 246.0
Check tolerance	: + 6.0	cm3/1000 strokes : +- 1.0 Check tolerance
Spreed	+	cm3/1000s. : +- 4.0
cm3/1000 strokes Check tolerance	+	Spreed cm3/1000 strokes : 5.0
cm3/1000s.	: 12.0	Check tolerance cm3/1000s. : 9.0
	Į.	CIID/ (0003).0
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	CONTROL LEVER
	+	CONTROL LEVER
GUIDE SLEEVE TRAN		CONTROL LEVER
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm	/EL : 275 : 2.06	CONTROL LEVER control lever position degree : 33.0 tolerance degree : +- 4.0 control lever
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20	CONTROL LEVER control lever position degree : 33.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm	/EL : 275 : 2.06 : + 0.20	CONTROL LEVER control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5
WITH GOVERNOR GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15 : 1050 : 6.00	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15 : 1050 : 6.00 : + 0.10	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Guide sleeve travel mm Tolerance mm Rated speed rpm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15 : 1050 : 6.00	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15 : 1050 : 6.00 : + 0.10	control lever position degree : 33.0 tolerance degree : +- 4.0 control lever position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAN Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	/EL : 275 : 2.06 : + 0.20 : 1103 : 6.55 : + 0.15 : 1050 : 6.00 : + 0.10 : 355 : 4.25	control lever position degree : 33.0 tolerance degree : + 4.0 control lever position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.60 Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50

control lever		† † †	Pressure hPa rack travel mm Tolerance mm	: 440 : 11.00 : +- 0.05
tolerance degree control lever position degree tolerance degree	: 11.0	† + + +	START CUT-OUT Rated speed rpm Rated speed rpm	: < 100 : > 195
Testing:		+	Check	
Rated speed rpm rack travel mm Tolerance mm		† † †	speed 1/min Check speed 1/min	
rack travel mm Rated speed rpm Tolerance 1/min Rated speed rpm	: 2.00 : 346 : ← 20	† + + + +	FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity	
CRT mm min.	: > 7.22	}	cm3/1000 strokes cm3/1000 strokes Check tolerance	
TORQUE CONTROL		1	cm3/1000s.	: +- 6.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.60 : + 0.05 : 1050 : 12.60	+++++++++++++++++++++++++++++++++++++++	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 147.0
ANEROID/ALTITUDE COMPENSATOR TEST		+	BREAKAWAY	
SETTING Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.60 : + 0.05	† † †	Rack travel in mm Rated speed rpm Tolerance 1/min	
MEASUREMENT	. + 0.03	Ī	STARTING FUEL DEL	IVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: - : 500 : 8.20 : + 0.20 : 500 : 260 : 9.20 : + 0.15	† † † † †	Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	
roter affice min	, . 0,15	+		

LOW IDLE

Rated speed rpm : 275

Del. quantity
cm3/1000 strokes : 24.0
cm3/1000 strokes : + 3.0

Check tolerance
cm3/1000s. : + 6.0

Spreed
cm3/1000 strokes : 8.0

Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 957

Injection pump

Pump designation : PES6P120A720RS7292

: -1

EP type number : 0 412 726 939

Governor

Governer design. : RQV350...1150PA1074

: -2K

Governer no. : 0 421 815 367

Cust. part No. : 0250741002

Customer—spec. information Customer : MB-NFZ Motor : OM366LA Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 3.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

	+ Rated speed rpm : 1480
Rack travel in mm: 14.40	duide sleeve
Tolerance mm : +- 0.05	travel mm : 13.50
	Tolerance mm : +- 0.50
Del. quantity -	+
cm3/1000 strokes : 280.0	
	GUIDE SLEEVE POSITION
cm3/1000 strokes : +- 1.0	 -
	Rated speed rpm : 1331
Check tolerance -	
cm3/1000s. : +- 4.0	Rack travel in mm : 13.50
	Tolerance mm : +- 1.30
Spreed -	†
cm3/1000 strokes : 8.0 -	FULL LOAD OF THERM AT FULL LOAD OFFI
Oh sala da Laurana	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance -	Datad aread man . 1150
cm3/1000s. : 12.0	Rated speed rpm : 1150
- 0-Add	Aneroid pressure
Rated speed rpm : 350	hPa : 1500
•	Del. quantity
	cm3/1000 strokes : 280.0
Rack travel in mm: 6.00	cm3/1000 strokes : + 1.0
Tolerance mm : +- 0.10 -	Check tolerance
Del. quantity -	cm3/1000s. : + 4.0
cm3/1000 strokes : 13.0 - cm3/1000 strokes : + 3.0 -	- Spreed - cm3/1000 strokes : 8.0
Check tolerance	Check tolerance
cm3/1000s. : +- 6.0	- cm3/1000s. : 12.0
Spreed -	- CIII37 10003 12.0
cm3/1000 strokes : 4.0	
Check tolerance	
cm3/1000s. : 8.0	CONTROL LEVER
. 5.0	L CONTINUE EEVEN
_	control lever
(B) SETTING OF INJECTION PUMP	position degree : 109.0
WITH GOVERNOR	tolerance degree : +- 4.0
WITH SOVERHOOK	La contraction degree to the contraction of the contraction degree to the contraction of
	RATED SPEED
GUIDE SLEEVE TRAVEL	
-	- rack travel mm : 13.40
Rated speed rpm : 350	Rated speed rpm : 1195
guide sleeve	Tolerance 1/min : +- 5
travel mm : 1.53	
Tolerance mm : +- 0.20	rack travel mm : 4.00
	- Rated speed rpm : 1305
Rated speed rpm : 1206 -	- Tolerance 1/min : +- 15
guide sleeve	
travel mm : 9.35	rack travel mm : 0.70
Tolerance mm : + 0.15	- Tolerance mm : +- 0.70
,	Rated speed rpm : 1400
Rated speed rpm : 855	
guide sleeve -	
travel mm : 5.56	
Tolerance mm : + 0.25	- LOW IDLE
<u></u> +	
Rated speed rpm : 550	
guide sleeve	- control lever
travel mm : 3.17	- position degree : 65.0
Tolerance mm : + 0.25	
1010. 4.100	tolerance degree : +- 4.0
10000 0000	- tolerance degree : +- 4.0 -

Testing:

Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150 rack travel mm : 14.40 Tolerance mm : + 0.05

Rated speed rpm : 950 rack travel mm : 14.25 Tolerance mm : + 0.10

Rated speed rpm : 750 rack travel mm : 13.70 Tolerance mm : +- 0.10

Rated speed rpm : 600 rack travel mm : 13.20 Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
Pressure hPa : 1500
rack travel mm : 14.40
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 1150
rack travel mm : 10.50
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 1050 rack travel mm : 13.70 Tolerance mm : +- 0.05

Pressure hPa : 400 rack travel mm : 11.30 Tolerance mm : + 0.15

ST	٠,٨	DT		רו ו	Г⊣	\sim	1.	•
IJΙ	м	пп	U	U		v	J	

Rated speed rpm : > 100 Rated speed rpm : < 270

Check

speed 1/min :> 80 Check speed 1/min :< 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500 Rated speed rpm : 750 Del. quantity

cm3/1000 strokes : 285.0 cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 5.0 Spreed

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Aneroid pressure

hPa : 1500 Rated speed rpm : 600 Del. quantity

cm3/1000 strokes : 277.0 cm3/1000 strokes : +- 3.0 Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 143.0 cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 13.80

Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		175.0
cm3/1000 strokes	:	+-	15.0
Check tolerance			
cm3/1000s.	:	+-	19.0

LOW IDLE

Rated speed rpm Del. quantity	:	350	
cm3/1000 strokes	:	13.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.		6.0	
Spreed	:	0.0	
cm3/1000 strokes Check tolerance	:	4.0	
cm3/1000s.	:	8.0	

End of test specification sheet

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22,11,96 Edition : ISO 4113 Test oil

Combination No. : 0 402 798 201

Injection pump

Pump designation : PES8H120/720LS1003

EP type number : 0 412 728 201

Governor

Governer design. : RE33

Governer no. : 0 421 890 358

Cust. part No. : 1364711

Customer-spec. information Customer : SCANIA : DSC 1413 Motor : 390.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

40 temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 8.00 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 0.50

Firing order : 1-2-7-3-4 :-5-6-8

: 0-45-90-135-180 Phasing : -225-270-315

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.10 Check tolerance *NW : +- 0.75

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTIN POSITION	IG RACK TRAVEL SENSOR
Engine speed min	n-1: 0
Setting point (P, R and H pump))
Uact V CRT mm Tolerance mm	: 3.100 : 13.00 : +/- 0.05
Check tolerance mm	: +/- 0.10
Check value (P, R and H pump))
Uact V CRT mm Tolerance mm	: 1.700 : 6.15 : +/- 0.25
Check tolerance mm	: +/- 0.30
Setting point (M pump)	
Uact V CRT mm Tolerance mm	: 3.100 : 12.50 : +/- 0.05
Check tolerance mm	: +/- 0.10
Check value (M pump)	
Uact V CRT mm Tolerance mm	: 1.700 : 5.50 : +/- 0.25
Check tolerance mm	: +/- 0.30
Stop position	
Uact V deen	: Value with ergised adjusting magnet and control rod in
CRT mm Tolerance mm Check	stop position. : 0.75 : +/- 0.25
tolerance mm	: +/- 0.35
ENGINE-SPEED SENSOR (All P and R pumps not	

Test with control rod in stop position Engine speed min-1: 60 Amplitude V : 1.4 : +/- 0.6 Tolerance V Check : +/- 1.20 tolerance V Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 700 3.150 Uact V Prestroke solenoid 7,60 Stroke mm Del. quantity cm3/1000 strokes : 344.5 cm3/1000 strokes : \leftarrow 1.0 Check tolerance cm3/1000s. 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm : 950 Uact V 3.450 Prestroke solenoid 8.20 Stroke mm Del. quantity cm3/1000 strokes : 365.0 cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s.: +- 7.0 TEST POINT L1 Rated speed rpm : 250 Uact V : 1.400 Tolerance Volt : +- 0.060 Check tolerance Volt : + - 0.060Prestroke solenoid

9.50

31.0

Stroke mm

Spreed

Del. quantity cm3/1000 strokes :

cm3/1000 strokes : +- 3.0

cm3/1000 strokes : 4.0

H and M pumps)

Check	tolerance
cm3/10	2000

8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.11.96 Test oil : ISO 4113

Combination No. : 0 403 244 056

Injection pump

Pump designation : PES4MW100/720RS1525

EP type number : 0 413 204 022

Governor

Governer design. : RQ300/1300MW160 Governer no. : 0 420 082 077

Cust. part No. : 0270749502

Customer—spec. information Customer : MB-NFZ Motor : OM364LA Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : +- 0.05
Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 119.0

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

3.5

Check tolerance	. 40	† Bard Arrowsh : 22.22
cm3/1000s.	: 6.0	+ Rack travel in mm : 20.00 + Tolerance mm : +- 0.80
Rated speed rpm	: 300	†
		FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m	m: 3.90	+ TOLE LOND SELECTION AT TOLE LOND OTO
Tolerance mm	: +- 0.10	+ Rated speed rpm : 1300
Del. quantity		+ Aneroid pressure
cm3/1000 strokes		+ hPa : 1200
cm3/1000 strokes		+ Del. quantity
Check tolerance cm3/1000s.	. +- /. 5	- cm3/1000 strokes : 119.0 - cm3/1000 strokes : + 1.0
Spreed	. 1 4.3	Check tolerance
cm3/1000 strokes	: 3.5	+ Check tolerance + cm3/1000s. : + 3.0
Check tolerance		Spreed
cm3/1000s.	: 5.5	+ cm3/1000 strokes : 3.5
		+ Check tolerance
(D) 00-00110 00-00	NI FORTANI DI III	+ cm3/1000s. : 6.0
(B) SETTING OF I	NJECTION PUMP	†
WITH GOVERNOR		İ
		CONTROL LEVER
GUIDE SLEEVE TRA	VEL	+
		control lever
Rated speed rpm	: 300	+ position degree : 89.0
guide sleeve travel mm	4.40	tolerance degree : +- 4.0
travel mm Tolerance mm	1.14	T DATED COFFE
ioterance mm	. — 0.20	RATED SPEED
Rated speed rpm	: 1353	rack travel mm : 12.30
guide sleeve		+ Rated speed rpm : 1345
travel mm Tolerance mm	: 6.52	Tolerance 1/min : + 5
ioterance mm	; - 0.15	nack travel / 00
Rated speed rpm	: 1300	+ rack travel mm : 4.00 + Rated speed rpm : 1465
guide sleeve		Tolerance 1/min : + 15
travel mm	: 6.00	+
Tolerance mm		rack travel mm : 0.50
	100	Tolerance mm : + 0.50
Rated speed rpm	: 458	+ Rated speed rpm : 1575
guide sleeve	: 2.45	†
travel mm Tolerance mm		I
TOTAL BUILD HAII		LOW IDLE
Rated speed rpm	: 750	+
guide sleeve		+
travel mm	: 6.00	+ control lever
Tolerance mm	: ← 0.10	position degree : 35.0
Rated speed rpm	: 1570	tolerance degree : +- 4.0
guide sleeve	. 1570	Testing:
travel mm	: 11.50	T resume.
Tolerance mm	: + 0.50	Rated speed rpm : 300
		+ rack travel mm : 3.90 + Tolerance mm : + 0.10
GUIDE SLEEVE POST	ITION	t paradament and and
Dotad anand ana	: 800	+ Rated speed rpm : 200
Rated speed rpm	. 000	+ CRT mm min. : > 4.30
		7 CAL HAR HITTI 4.30

_	
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 13.30 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.30 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm Tolerance mm	: - : 500 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 400 : 2.50 : +- 0.10
Pressure hPa rack travel mm Tolerance mm	: 200 : 0.50 : ← 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 750
cm3/1000 strokes cm3/1000 strokes	: 117.0 : +- 1.5
Check tolerance cm3/1000s. Spreed	: ← 4.0
opreed cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 9.0
Aneroid pressure	: 1200

Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1300 : 105.0 : +- 1.5 : +- 3.0 : : 500		
Del. quantity			
cm3/1000 strokes cm3/1000 strokes	: 73.0 : +- 1.0		
Check tolerance cm3/1000s.	: +- 3.0		
BREAKAWAY			
Rack travel in mm Rated speed rpm Tolerance 1/min			
STARTING FUEL DEL	STARTING FUEL DELIVERY		
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 150.0 : + 5.0 : + 8.0		
LOW IDLE			
Rated speed rpm Del. quantity	: 300		
cm3/1000 strokes cm3/1000 strokes	: 12.0 : + 2.0		
Check tolerance	. 4.0		
cm3/1000S. Spreed cm3/1000 strokes Check tolerance	: + 4.5		
	: 3.5		
End of test specif	: 5.5		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 403 456 120A

Injection pump

Pump designation : PES6MW100/321RS1210

EP type number : 0 413 406 201

Governor

Governer design. : RQZ50/1050MW84-11

Governer no. : 0 420 082 066

Cust. part No. : 3-7577

Customer—spec. information Customer : MAN

Motor : D 0826 LUH 06

Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 14.05

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 162.0

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0

+	
Check tolerance +	Rack travel in mm : 20.00
cm3/1000s. : 7.5 +	Tolerance mm : +- 0.80
Rated speed rpm : 250	
Rated speed rpm : 250 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Ţ	FOLE EDAY PERIVERY AT THE EDAY STOP
Rack travel in mm: 5.10	Rated speed rpm : 800
Tolerance mm : $+$ 0.10	Aneroid pressure
Del. quantity	hPa : 1100
cm3/1000 strokes : 15.0	Del. quantity
cm3/1000 strokes : + 2.0 +	cm3/1000 strokes : 162.0
Check tolerance	cm3/1000 strokes : +- 1.0
cm3/1000s. : +- 4.5	Check tolerance
Spreed +	
cm3/1000 strokes : 3.5	Spreed
Check tolerance +	cm3/1000 strokes : 4.0
cm3/1000s. : 5.5	Check tolerance
†	cm3/1000s. : 7.5
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	
WITH GOVERNOR	CONTROL LEVER
T	CONTROL LEVER
GUIDE SLEEVE TRAVEL	control lever
doire seelle marke	position degree : 98.0
Rated speed rpm : 250	tolerance degree : +- 4.0
	toterance degree . +- 4.0
guide sleeve + travel mm : 1.25 +	DATEN CREEN
+ · · · · · · · · · · · · · · · · ·	RATED SPEED
Tolerance mm : + 0.20	rack travel mm : 13.00
1440	
Rated speed rpm : 1110	Rated speed rpm : 1105
guide sleeve +	Tolerance 1/min : +- 8
travel mm : 6.35 +	
Tolerance mm : +- 0.15 +	rack travel mm : 4.00
· · · · · · · · · · · · · · · · · · ·	Rated speed rpm : 1185
Rated speed rpm : 800 +	Tolerance 1/min : +- 15
guide sleeve +	
travel mm : 6.00 +	rack travel mm : 0.50
Tolerance mm : + 0.10 +	Tolerance mm : + 0.50
+	Rated speed rpm : 1300
Rated speed rpm : 335	
guide sleeve +	
travel mm : 3.16 +	
Tolerance mm : + 0.10	LOW IDLE
+	
Rated speed rpm : 470 +	
guide sleeve +	control lever
travel mm : 6.00 +	position degree : 71.0
Tolerance mm : + 0.10 +	tolerance degree : +- 4.0
}	_
Rated speed rpm : 1280	Testing:
guide sleeve	-
travel mm : 11.50 +	Rated speed rpm : 250
Tolerance mm : +- 0.50	rack travel mm : 5.10
<u> </u>	Tolerance mm : + 0.10
GUIDE SLEEVE POSITION +	Rated speed rpm : 150
\	
Rated speed rpm : 600	CRT mm min. : > 6.50

		+ Check tolerance
TORQUE CONTROL		+ cm3/1000s. : 9.0
Rated speed rpm rack travel mm Tolerance mm	: 800 : 14.05 : + 0.05	+ Aneroid pressure + hPa : 1100 + Rated speed rpm : 1050 + Del. quantity + cm3/1000 strokes : 157.0
Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.05 : + 0.05	cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.05 : + 0.05	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 68.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1100 : 14.05 : +- 0.05	Rack travel in mm: 13.00 Rated speed rpm: 1105 Tolerance 1/min: +- 8
MEASUREMENT		1
Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: - : 500 : 9.45 : + 0.05	STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 70.0
Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 700 : 13.35 : +- 0.15	cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 13.0
rack travel mm Tolerance mm	: 9.75 : + 0.05	LOW IDLE
TOTAL MANUEL MAN	0.05	Rated speed rpm : 250 Del. quantity
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa	: 1100	cm3/1000S. : +- 4.5 + Spreed
Rated speed rpm Del. quantity	: 600	cm3/1000 strokes : 3.5 Check tolerance
cm3/1000 strokes cm3/1000 strokes Check tolerance		cm3/1090s. : 5.5
cm3/1000s. Spreed	: +- 5.0	1
cm3/1000 strokes	: 6.0	Ţ

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 403 474 021E

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information Customer : LIEBHERR : D924TI-E A2 Motor

: 132.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

31.0 Test pressure bar : Tolerance bar : + 1.0

3.05 Prestroke mm : +- 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.60 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 184.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0	† RATED SPEED
Check tolerance	I KATED STEED
cm3/1000s. : 7.5	+ rack travel mm
	+ Rated speed rp
Rated speed rpm : 400	+ Tolerance 1/mi
	+
	+ rack travel mm
Rack travel in mm : 4.60	+ Rated speed rp
Tolerance mm : + 0.20	† Tolerance 1/mi
Del. quantity	T mak though the
cm3/1000 strokes : 20.0 cm3/1000 strokes : +- 2.0	+ rack travel mm + Tolerance mm
Charlet to Language	+ Rated speed rp
Check tolerance cm3/1000s. : +- 4.5	I Rated speed 15
Spreed	rack travel mm
cm3/1000 strokes : 3.5	+ Rated speed rp
Check tolerance	+
cm3/1000s. : 5.0	+
- · · · · · · ·	+
	+ LOW IDLE
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
	+ control lever
	position degre
CUIDE OF FEVE DOCUTION	Setting point
GUIDE SLEEVE POSITION	T secting point
Rated speed rpm : 800	Rated speed rp
nated speed i piii i ooo	+ rack travel mm
Rack travel in mm: 0.65	+
Tolerance mm : + 0.35	† Testing:
	+
governor_spring	+ Rated speed rp
pre-tension	+ rack travel mm
click setting x : 3.25	† Tolerance mm
	Pated speed ro
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rp
TOLL LUAD DELIVERT AT FULL LUAD STOP	T CRT mm min.
Rated speed rpm : 1000	
Aneroid pressure	
hPa : 1250	+ TORQUE CONTROL
Del. quantity	+
cm3/1000 strokes : 184.0	+ Rated speed rp
cm3/1000 strokes : +- 1.0	+ rack travel mm
Check tolerance	† Tolerance mm
cm3/1000s. : +- 4.0	† p.4
Spreed	+ Rated speed rpr
cm3/1000 strokes : 4.0	+ rack travel mm + Tolerance mm
Check tolerance cm3/1000S. : 7.5	T locerance in
URD/ 10003	T Rated speed rpr
	+ rack travel mm
	Tolerance mm
CONTROL LEVER	+
	+
control lever	+
position degree : 101.0	+
· -	4

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550 Pressure hPa rack travel mm : 11.60 : **←** 0.05 Tolerance mm

MEASUREMENT

: 1250 Pressure hPa Rated speed rpm 550 rack travel mm 13.60 : **←** 0.05 Tolerance mm

Rated speed rpm : 550

Pressure hPa : 590 12,10 rack travel mm : : +- 0.05 Tolerance mm

720 Pressure hPa 13.00 rack travel mm : Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

1250

Aneroid pressure

hPa

Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 184.0 cm3/1000 strokes : +- 2.0 Check tolerance : +- 5.0 cm3/1000s.Spreed cm3/1000 strokes : 6.0 Check tolerance 9.0 cm3/1000s.

Aneroid pressure

1250 hPa Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 191.5 cm3/1000 strokes : +- 2.0 Check tolerance : +- 5.0

Aneroid pressure

cm3/1000s.

hPa Rated speed rpm : 550 Del. quantity

 $cm3/1000 \text{ strokes} : 149.0 \\ cm3/1000 \text{ strokes} : + 1.0$ Check tolerance cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm: 12.60 Rated speed rpm : 1025 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : 135.0cm3/1000 strokes : + 5.0Check tolerance : + 8.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 20.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.11.96 Test oil : ISO 4113

Combination No. : 0 403 474 021F

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer—spec. information
Customer : LIEBHERR
Motor : D924 T-E A2

Power KW : 120.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance "NW : \leftarrow 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.20

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 176.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0	+ RATED SPEED
Check tolerance	+
cm3/1000s. : 7.5	+ rack travel
Duburd speed on	Rated speed
Rated speed rpm : 400	+ Tolerance 1/
	rack travel
Rack travel in mm: 4.50	+ Rated speed
Tolerance mm : + 0.20	+ Tolerance 1/
Del. quantity cm3/1000 strokes : 25.0	† rack travel
cm3/1000 strokes : + 2.0	+ Tolerance mm
Check tolerance	Rated speed
cm3/1000S. : +- 4.5	1 Marca speed
Spreed	+ rack travel
cm3/1000 strokes : 3.5	+ Rated speed
Check tolerance	+
cm3/1000s. : 5.0	<u> </u>
	LOW IDLE
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	†
	+ control leve
	position deg
GUIDE SLEEVE POSITION	Setting poin
Rated speed rpm : 800	+ Rated speed
	+ rack travel
Rack travel in mm : 0.65	+
Folerance mm : + 0.35	+ Testing:
governor spring	Rated speed
pre-tension	+ rack travel
click setting x : 3.75	+ Tolerance mm
	+
	+ Rated speed
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min.
Rated speed rpm : 900	-
Aneroid pressure	+
nPa : 1250	+ TORQUE CONTR
Del. quantity	†
cm3/1000 strokes : 176.0	+ Rated speed
cm3/1000 strokes : +- 1.0	+ rack travel + Tolerance mm
Check tolerance cm3/1000S. : +- 4.0	I locerance mm
cm3/10005. : +- 4.0 Spreed	T Rated speed
cm3/1000 strokes : 4.0	rack travel
Check tolerance	+ Tolerance mm
cm3/1000s. : 7.5	+
· · · · · · · · · · · · · · · · · · ·	+ Rated speed
	+ rack travel
	† Tolerance mm
CONTROL LEVER	†
control lever	I
position degree : 96.0	1
500161GH 40g- 00 , , , , , , , , , , , , , , , , , ,	1

KATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 12.20 : 915 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 975
rack travel mm Tolerance mm Rated speed rpm	: 1.00 : + 0.70 : 1075
rack travel mm Rated speed rpm	: 4.00 : 980
LOW IDLE	· · · · · · · · · · · · · · · · · · ·
control lever position degree	: 78.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 550 : 4.50 : + 0.20
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 13.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.20 : ← 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	550
Pressure hPa	:	-
rack travel mm	:	12.20
Tolerance mm	: +	- 0.05

MEASUREMENT

Pressure hPa	:	1250
Rated speed rpm	:	550
rack travel mm	:	13.20
Tolerance mm	: -	 0.05

Rated	speed	rpm	:	550
-------	-------	-----	---	-----

Pressure hPa	:	550
rack travel mm	:	12.45
Tolerance mm	: +	- 0.05

Pressure hPa : 640 rack travel mm : 13.05 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid	pressure
	p. 00000.0

hPa	:	•	1250
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		178.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
cm3/1000 strokes	:		6.0
Check tolerance			
cm3/1000s.	:		9.0

Aneroid pressure

hPa	:	•	1250
Rated speed rpm	:		600
Del. quantity			
cm3/1000 strokes	:		180.0
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000s.	:	+	5.0

Aneroid pressure

hPa : -Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 156.0 cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm	:		12.20
Rated speed rpm	:		915
Tolerance 1/min	:	+-	5

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 20.00
Tolerance mm	: +- 1.00
Del. quantity	
cm3/1000 strokes	: 135.0
cm3/1000 strokes cm3/1000 strokes	: 135.0 : + 5.0

LOW IDLE

Rated speed rpm	:	400
Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: : +-	25.0 2.0 4.5
Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: :	3.5 5.0

End of test specification sheet

K07

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 21.11.96 Edition Test oil : ISO 4113 Combination No. : 0 403 474 0216 Injection pump Pump designation : PES4MW100/720RS1181 : 0 413 404 107 EP type number Governor Governer design. : RSV400...1000MW1A348 Governer no. : 0 420 085 183 Cust. part No. : Customer-spec. information Customer : LIEBHERR Motor : D924 T-E A2 : 121.0 Power KW TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C Overflow valve : 1 417 413 049 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 Tolerance bar : +- 1.5

: 1 680 750 008

6.0

x length mm : 600 **REMARKS** (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 31.0 Tolerance bar : +- 1.0 Prestroke mm 3.05 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10 Rack travel in mm : 10.50 Tolerance mm : +- 1.50 Firing order : 1- 3- 4- 2 : 0-90-180-270 Phasing Tolerance : +- 0.50 Check tolerance $^{\circ}NW$: \leftarrow 0.75 Start of delivery mark Barrel no. : 1 BASIC SETTING Rated speed rpm : 1000 Rack travel in mm: 13.00 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 174.0 cm3/1000 strokes : +- 1.0 Check tolerance : +- 4.0 cm3/1000s. Spreed

x inside diameter :

2.0

Test lines

Outside diameter :

cm3/1000 strokes	: 4.0	+ RATED SPEED	
Check tolerance		1	
cm3/1000s.	: 7.5	+ rack travel mm	: 12.00
		+ Rated speed rpm	
Rated speed rpm	: 400	+ Tolerance 1/min	
		†	/ 00
Rack travel in mm	: 4.50	+ rack travel mm	
Tolerance mm	: + 0.20	Rated speed rpm Tolerance 1/min	
Del. quantity	0.20	T Total Re 17 milli	
cm3/1000 strokes	: 25.0	+ rack travel mm	: 1.00
cm3/1000 strokes		+ Tolerance mm	: +- 0.70
Check tolerance		+ Rated speed rpm	: 1200
cm3/1000s.	: +- 4.5	+	
Spreed		+ rack travel mm	
cm3/1000 strokes	: 3.5	+ Rated speed rpm	: 1090
Check tolerance cm3/1000s.	: 5.0	†	
.mD/ 10005.	: 5.0	I	
		LOW IDLE	
(B) SETTING OF INJ	JECTION PUMP	+	
WITH GOVERNOR		+	
		+ control lever	. 00.0
		position degree	: 80.0
SUIDE SLEEVE POSIT	TION	Setting point w/o	out bumper spring
Rated speed rpm	: 800	+ Rated speed rpm	: 550
vared speed this	. 550	+ rack travel mm	
ack travel in mm	: 0.85	+	
olerance mm		+ Testing:	
		+	550
povernor spring		+ Rated speed rpm	
ore-tension	. / 25	+ rack travel mm	
click setting x	: 4.25	† Tolerance mm	: - 0.20
		Rated speed rpm	: 100
TULL LOAD DELIVERY	AT FULL LOAD STOP	+	
		+ CRT mm min.	: > 19.00
ated speed rom	: 1000	†	
neroid pressure	. 4790	TODOUR CONTROL	
Pa	: 1380	TORQUE CONTROL	
el. quantity m3/1000 strokes	: 174.0	Rated speed rpm	: 1000
m3/1000 strokes		rack travel mm	: 13.00
Check tolerance		+ Tolerance mm	: +- 0.05
cm3/1000s.	: +- 4.0	-	
Spreed		Rated speed rpm	: 500
cm3/1000 strokes	: 4.0	rack travel mm	: 13.00
Check tolerance		Tolerance mm	: ← 0.05
cm3/1000s.	: 7.5	Pokedd	. 700
		Rated speed rpm	: 700 : 13.00
		rack travel mm Tolerance mm	: + 0.05
CONTROL LEVER		TOTEL GLICE (IN)	0.05
control lever	•	İ	
control lever	• 102.0	1	

position degree : 102.0

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : rack travel mm : 11.80
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : 1380
Rated speed rpm : 550
rack travel mm : 13.00
Tolerance mm : + 0.05

Rated speed rpm : 550

Pressure hPa : 560 rack travel mm : 12.10 Tolerance mm : + 0.05

Pressure hPa : 660 rack travel mm : 12.70 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1380
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 173.0
cm3/1000 strokes : + 2.0
Check tolerance

cm3/1000s. : + 5.0
Spreed
cm3/1000 strokes : 6.0

Check tolerance cm3/1000s. : 9.0

Aneroid pressure

hPa : 1380 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 180.0 cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0

Aneroid pressure

hPa : -Rated speed rpm : 550 Del. quantity

cm3/1000 strokes : 148.0 cm3/1000 strokes : \leftarrow 1.0 Check tolerance

cm3/1000s. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1020
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00 Del. quantity cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm 400 Del. quantity cm3/1000 strokes : 25.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.11.96 Edition Test oil

Combination No. : 0 403 474 021H

Injection pump

Pump designation : PES4MW100/720RS1181

EP type number : 0 413 404 107

Governor

Governer design. : RSV400...1000MW1A348

Governer no. : 0 420 085 183

Cust. part No. :

Customer-spec. information Customer : LIEBHERR : D924TI-E A2 Motor

Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.05 Tolerance mm : + 0.05 Check tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.50 Phasing

Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.30 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 178.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 4.0	TATES COSES
Check tolerance	RATED SPEED
cm3/1000s. : 7.5	rack travel mm : 12.30
CHS/10003 /.5	Rated speed rpm : 915
Rated speed rpm : 400	Tolerance 1/min : +- 5
Nated Speed (pill : 400	T rocerance minima.
	rack travel mm : 4.00
Rack travel in mm: 4.60	Rated speed rpm : 980
Tolerance mm : +- 0.20	+ Tolerance 1/min : +- 10
Del. quantity	10001 41100 17 11111
cm3/1000 strokes : 12.0	rack travel mm : 1.00
cm3/1000 strokes : + 2.0	Tolerance mm : + 0.70
Check tolerance	Rated speed rpm : 1175
cm3/1000s. : +- 4.5	+
Spreed	rack travel mm : 4.00
cm3/1000 strokes : 3.5	Rated speed rpm : 990
Check tolerance	+
cm3/1000s. : 5.0	+
•	
	LOW IDLE
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR -	+
•	control lever
•	position degree : 74.0
	†
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
-	†
Rated speed rpm : 800 -	Rated speed rpm : 400
	rack travel mm : 4.30
Rack travel in mm: 0.65	† ₇₄ :
Tolerance mm : +- 0.35	Testing:
	Rated speed rpm : 400
governor spring - pre-tension -	Rated speed rpm : 400 rack travel mm : 4.60
click setting x : 4.50	Tolerance mm : + 0.20
ctick setting x : 4.50	Total disce limit . The U.20
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	Hatea speed (pill : 100
TOLL COAD DELIVERY AT TOLL COAD OTO.	CRT mm main. : > 19.00
Rated speed rpm : 900	
Aneroid pressure	
hPa : 1100	TORQUE CONTROL
Del. quantity	
cm3/1000 strokes : 178.0	Rated speed rpm : 900
cm3/1000 strokes : + 1.0	rack travel mm : 13.30
Check tolerance	Tolerance mm : + 0.05
$cm3/1000s.$: \leftarrow 4.0	}
Spreed	- Rated speed rpm : 500
cm3/1000 strokes : 4.0	rack travel mm : 13.30
Check tolerance	Tolerance mm : +- 0.05
cm3/1000s. : 7.5	
1	Rated speed rpm : 600
,	rack travel mm : 13.30 Tolerance mm : +- 0.05
	Tolerance mm : +- 0.05
CONTROL LEVER	
	
control lever	
position degree : 96.0	-

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm : Pressure hPa 12.15 rack travel mm : +- 0.05 Tolerance mm

MEASUREMENT

Pressure hPa 1100 500 Rated speed rpm : 13.30 rack travel mm Tolerance mm : +- 0.05

Rated speed rpm 500

Pressure hPa 575 : rack travel mm : 12.35 : +- 0.05 Tolerance mm

Pressure hPa 725 rack travel mm : 13.05 Tolerance mm : \leftarrow 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1100 hPa 500 Rated speed rpm : Del. quantity cm3/1000 strokes :

cm3/1000 strokes : +-2.0 Check tolerance

cm3/1000s.

: +-5.0 Spreed cm3/1000 strokes : 6.0

Check tolerance cm3/1000s. 9.0

Aneroid pressure

1100 hPa Rated speed rpm 600

Del. quantity

cm3/1000 strokes : 184.0 cm3/1000 strokes : +- 2.0Check tolerance

: +-5.0 cm3/1000s.

Aneroid pressure

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 157.0 cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.4.0

BREAKAWAY

Rack travel in mm: 12.30 Rated speed rpm : 915 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 : +- 1.00 Tolerance mm Del. quantity cm3/1000 strokes : 135.0 cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.11.96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 479

Injection pump

Pump designation : PES6P120A720LS7257

: -10

EP type number : 9 400 087 086

Governor

Governer design. : RQV300...1050PA1029

Governer no. : 9 420 080 340

Cust. part No. : 0250742202

Customer-spec. information Customer : MBB

: OM 447 LA Motor Power KW : 257.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000 3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 21.00

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 13.70

Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 247.5

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Check tolerance

: 9.0 cm3/1000s.

Rated speed rpm : 300	Aneroid pressure hPa : 1100 Del. quantity
Rack travel in mm: 5.30	cm3/1000 strokes : 247.5
Tolerance mm : +- 0.10	cm3/1000 strokes : +- 1.0
Del. quantity	Check tolerance
cm3/1000 strokes : 14.0	+ cm3/1000s. : + 4.0
$cm3/1000 \text{ strokes}$: \leftarrow 3.0	- Spreed
Check tolerance - cm3/1000s. : +- 6.0 -	+ cm3/1000 strokes : 5.0 + Check tolerance
Spreed -	- cm3/1000s. : 9.0
cm3/1000 strokes : 8.0 -	- 10000
Check tolerance -	+
cm3/1000s. : 12.0 -	+
•	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	t control lever
WITH GOVERNOR	position degree : 55.0
-	tolerance degree : + 4.0
	+
GUIDE SLEEVE TRAVEL -	control lever
Rated speed rpm : 1050	position degree : 121.0 tolerance degree : +- 4.0
guide sleeve	totel ance degree . + 4.0
travel mm : 7.80 -	RATED SPEED
Tolerance mm : + 0.10	
	rack travel mm : 12.70
Rated speed rpm : 700 -	Rated speed rpm : 1095
guide steeve - travel mm : 5.45 -	Tolerance 1/min : +- 5
Tolerance mm : + 0.25	rack travel mm : 4.00
TOTAL COLOR OF THE PROPERTY OF	Rated speed rpm : 1170
Rated speed rpm : 300	Tolerance 1/min : +- 15
guide sleeve	
travel mm : 0.75	rack travel mm : 0.50
Tolerance mm : +- 0.25	Tolerance mm : + 0.50 Rated speed rpm : 1300
Rated speed rpm : 500	L vared speed (pill : 1500
guide sleeve	-
travel mm : 3.55	
Tolerance mm : +- 0.25	LOW IDLE
Poted apped nom : 1145	
Rated speed rpm : 1165 - guide sleeve -	control lever
travel mm : 9.45	position degree : 82.0
Tolerance mm : + 0.25	tolerance degree : + 4.0
1	
CUIDE OF FRUE DOCUTION	control lever
GUIDE SLEEVE POSITION	position degree : 17.0 tolerance degree : +- 4.0
Rated speed rpm : 1120	Loter ance degree 4.0
Traced operations . The	- Testing:
Rack travel in mm: 16.50	
Tolerance mm : +- 1.30	- Rated speed rpm : 300 - rack travel mm : 5.30
	rack travel mm : 5.30 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	r roterance mai : T U.IU
TOLL LOAD DELIVERT AT FOLL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 700	-
,	- CRT mm min. :> 8.00

Rated speed rpm	: 350	- cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 5.0
TORQUE CONTROL		Spreed cm3/1000 strokes : 8.0
Rated speed rpm rack travel mm		- Check tolerance - cm3/1000s. : 12.0
Tolerance mm	: + 0.10	- Aneroid pressure - hPa : -
Rated speed rpm rack travel mm	: 13.70	Rated speed rpm : 500 Del. quantity
Tolerance mm	: +- 0.10	- cm3/1000 strokes : 123.0 - cm3/1000 strokes : +- 1.0 - Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		- cm3/1000s. : +- 4.0 - Spreed
	+	- cm3/1000 strokes : 5.0 - Check tolerance
SETTING	4	- cm3/1000s. : 9.0
Rated speed rpm Pressure hPa rack travel mm	: 1100 : 13.70	BREAKAWAY
Tolerance mm	: + 0.10	Rack travel in mm : 12.70
MEASUREMENT	 	- Rated speed rpm : 1095 - Tolerance 1/min : +- 5
Pressure hPa Rated speed rpm	: – : 500	
Rated speed rpm	: 500	STARTING FUEL DELIVERY
Pressure hPa rack travel mm	: 720 : 2.65	- Rated speed rpm : 100 - Del. quantity
Tolerance mm	: +- 0.15	- cm3/1000 strokes : 235.0 - cm3/1000 strokes : +- 10.0
Pressure hPa rack travel nm	: 400 : 0.80	- Check tolerance - cm3/1000S. : +- 14.0
Tolerance mm	: +- 0.10	- - -
START CUT-OUT		- LOW IDLE
Rated speed rpm Rated speed rpm	: > 100 : < 220	- - Rated speed rpm : 300 - Del. quantity
Check	1	- cm3/1000 strokes : 14.0
speed 1/min Check	: > 80	- cm3/1000 strokes : +- 3.0 - Check tolerance
speed 1/min	: < 240	- cm3/1000s. : +- 6.0 - Spreed
FUEL DELIVERY CHA	RACTERISTICS	- cm3/1000 strokes : 8.0 - Check tolerance
Aneroid pressure	‡	- cm3/1000s. : 12.0
hPa	: 1100	-
Rated speed rpm Del. quantity	: 1050	
cm3/1000 strokes	: 242.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.11.96 Test oil : ISO /147

Combination No. : 0 400 844 088

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: -10L

Governer no. : 0 420 212 203

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M364 Motor Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

Test pressure bar : 26.0 Tolerance bar : + 1.0

REMARKS

Firing order : 1-3-4-2

(A) INJECTION PUMP SETTING VALUES

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

x inside diameter: 1.5

x length mm : 600

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 64.0

cm3/1000 strokes : +- 0.5

Check tolerance

: **←** 2.5 cm3/1000S.

Spreed

cm3/1000 strokes : 3.0

Check tolerance

: 4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm: 8.70

Tolerance mm : +- 0.10
Del quantity Del. quantity

cm3/1000 strokes : 10.0

cm3/1000 strokes : +- 2.0

K18

Check tolerance		+ rack trav
cm3/1000S. Spreed	: +- 4.0	+ Rated spe + Tolerance
cm3/1000 strokes	: 2.0	+
Check tolerance cm3/1000s.	: 4.0	+ rack trav
Cm3/10003.	. 4.0	Tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	rack trav Tolerance Rated spe
GUIDE SLEEVE TRAV	/EL	†
Rated speed rpm guide sleeve	: 300	LOW IDLE
travel mm	: 1.05	+
Tolerance mm	: +- 0.25	+ control (
Rated speed rpm	: 1500	+ position + tolerance
guide sleeve		+
travel mm Tolerance mm	: 8.55 : + 0.05	+ Testing:
	700	Rated spe
Rated speed rpm guide sleeve	: 500	+ rack trav
gurde steeve travel mm	: 2.55	Toterance
Tolerance mm	: 2.55 : + 0.25	Rated spe
Rated speed rpm guide sleeve	: 750	CRT mm m
travel mm	: 4.20	+ Rated spe
Tolerance mm	: ← 0.10	<u> </u>
5	V 47 500 1 444 0760	TORQUE CO
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Dimension
Rated speed rpm	: 1400	+ Rated spe
Aneroid pressure		+ rack trav
hPa	: -	† Tolerance
Del. quantity cm3/1000 strokes	: 64.0	Rated spe
cm3/1000 strokes		+ rack trav
Check tolerance		+ Tolerance
cm3/1000s.	: +- 2.5	+
Spreed	. 70	+ Rated spe
cm3/1000 strokes Check tolerance	: 3.0	+ Tolerance
cm3/1000S.	: 4.5	+
		+ Rated spe
		+ rack trav
CONTROL LEVER		† Toterance
control lever		İ
position degree	: 115.0	T START CUT
tolerance degree	: - 4.0	+
		+ Rated spe
RATED SPEED		Rated spe

rack travel mm Rated speed rpm Tolerance 1/min	: 9.90 : 1445 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1560 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1700
LOW IDLE	
control lever position degree tolerance degree	: 76.0 : ← 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 8.70 : +- 0.10
Rated speed rpm	: 100
CRT mm min.	: > 10.20
Rated speed rpm	: 610
TORQUE CONTROL	
Dimension a mm Rated speed rpm rack travel mm Tolerance mm	: 1.00 : 1400 : 10.95 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.10 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.85 : +- 0.15
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.45 : + 0.15
START CUT-OUT	

Check				
speed 1/min	:	>	80	
Check	•			
speed 1/min	•	<	240	
opeca (7 mm)	•			
				
FUEL DELIVERY CHA	RAC	TEI	RISTICS	
Aneroid pressure				
hPa	•		_	
Rated speed rpm	•		500	
Del. quantity	•			
cm3/1000 strokes	:		51.5	
cm3/1000 strokes	:	+-	1.5	
Check tolerance	•		,,,,	
cm3/1000s.		+-	4.0	
Spreed	•		7.0	
Check tolerance				
cm3/1000s.	:		5.5	
UIID/ 10003.	•		ر . ر	
Aneroid pressure				
hPa			_	
Rated speed rpm	:		900	
Del. quantity	•		700	
cm3/1000 strokes			54.0	
	:	_	1.5	
cm3/1000 strokes	:	-	1.5	
Check tolerance		1	4.0	
cm3/1000s.	•		4.0	
Rack travel in mm Rated speed rpm Tolerance 1/min	:	1	9.90 445 5	
STARTING FUEL DEL	IVE	RY		
		RY	100	
Rated speed rpm	IVE :	RY	100 16.80	
Rated speed rpm rack travel mm		RY		
Rated speed rpm		RY	16.80	
Rated speed rpm rack travel mm Tolerance mm	:	RY	16.80 0.20 83.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity		RY +-	16.80 0.20	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	•	RY +-	16.80 0.20 83.0 5.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes	•	RY +	16.80 0.20 83.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	•	RY +	16.80 0.20 83.0 5.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	•	RY +	16.80 0.20 83.0 5.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.		+	16.80 0.20 83.0 5.0 8.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm	•	+	16.80 0.20 83.0 5.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Del. quantity		+	16.80 0.20 83.0 5.0 8.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm		+	16.80 0.20 83.0 5.0 8.0	

Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.11.96 Edition Test oil : ISO 4113

Combination No. : 0 400 844 089

Injection pump

Pump designation : PES4A90D410RS2666 EP type number : 0 410 894 029

Governor

Governer design. : RQV300...1400AB1065

: -10L

Governer no. : 0 420 212 203

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M364 Motor : 66.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

: 0-90-180-270 Phasing Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95 Tolerance mm: \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 64.0

cm3/1000 strokes : +- 0.5

Check tolerance

: +cm3/1000s. 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

: 4.5 cm3/1000s.

Rated speed rpm : 300

Rack travel in mm : 8.70

Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 10.0 cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s.	: + 4.0		
Spreed	: + 4.0	CONTROL LEVER	
cm3/1000 strokes	: 2.0	CONTINUE EEVEN	
Check tolerance	1	control lever	
cm3/1000s.	: 4.0	position degree	: 117.0
	+	tolerance degree	: +- 4.0
(D) OFTENIO OF TH	THEOTYCKI DUMP	DATEN ODEEN	
(B) SETTING OF IN WITH GOVERNOR	DECITOR PUMP	RATED SPEED	
MILL GOAEVIAOV	Ţ	rack travel mm	: 9.90
		Rated speed rpm	
GUIDE SLEEVE TRAV	/EL +	Tolerance 1/min	: ← 5
	700		/ 00
Rated speed rpm	: 300 +	rack travel mm	: 4.00 : 1560
guide sleeve travel mm	: 1.05	Rated speed rpm Tolerance 1/min	
Tolerance mm	: + 0.25	TOTAL TOTAL	19
	+	rack travel mm	: 0.50
Rated speed rpm	: 1500	Tolerance mm	: ← 0.50
guide sleeve	+	Rated speed rpm	: 1700
travel mm	: 8.55 : +- 0.05		
Tolerance mm	: - 0.05		
Rated speed rpm	: 500	LOW IDLE	
guide sleeve	+	_ · · · · _ · _ ·	
travel mm	: 2.55		
Tolerance mm	: + 0.25 +	control lever	77. 0
Dated aread are	: 750	position degree	
Rated speed rpm guide sleeve	· '30 I	tolerance degree	; +- 4.0
travel mm	: 4.20	Testing:	
Tolerance mm	: + 0.10 +		
	+	Rated speed rpm	
CUTAE AL ESUE DOCT	TTON	rack travel mm	: 8.70
GUIDE SLEEVE POSI	1100	Tolerance mm	: +- 0.10
Rated speed rpm	: 1500	Rated speed rpm	: 100
	1 50	00T 1	40.00
Rack travel in mm Tolerance mm	: +- 1.30	CRT mm min.	: > 10.20
TOTE WITE WAR	I	Rated speed rpm	: 610
		The second of th	
FULL LOAD DELIVER	Y AT FULL LOAD STOP +		
Dated and and	. 1/00	TORQUE CONTROL	
Rated speed rpm Aneroid pressure	: 1400 I	Dimension a mm	. 1.00
hPa	: - 1	Rated speed rpm	
Del. quantity	·	rack travel mm	
cm3/1000 strokes		Tolerance mm	: +- 0.05
cm3/1000 strokes	: ← 0.5 †	Ontari and I	500
Check tolerance cm3/1000s.	: ← 2.5	Rated speed rpm rack travel mm	
Spreed	· - 2.5	Tolerance mm	
cm3/1000 strokes	: 3.0	TOTOL GITTO GITT	· · · · · · · · · · · · · · · · · · ·
Check tolerance	+	Rated speed rpm	
cm3/1000s.	: 4.5	rack travel mm	
	†	Tolerance mm	: + 0.15
	1	Rated speed rpm	: 900
	Ŧ	nated speed this	. 700

rack travel mm Tolerance mm	: 11.50 : ← 0.10
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min	: > 80
Check speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 51.5
cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s. Spreed	: ← 4.0
Check tolerance cm3/1000s.	: 5.5
Aneroid pressure	
hPa Rated speed rpm	900
Del. quantity	
cm3/1000 strokes	: 54.0
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s.	: ← 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1445
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 16.80
Tolerance mm Del. quantity	: + 0.20
cm3/1000 strokes	: 83.0
cm3/1000 strokes	: 5.0
Check tolerance	

LOW IDLE

Rated speed rpm Del. quantity	:	300	
cm3/1000 strokes	; 	10.0	
Check tolerance	•	2.0	
cm3/1000s. Spreed	: +-	4.0	
cm3/1000 strokes Check tolerance	:	2.0	
cm3/1000s.	:	4.0	

End of test specification sheet

Check tolerance cm3/1000s. : + 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.11.96 Test oil : ISO 4113

Combination No. : 0 400 844 096

Injection pump

Pump designation : PES4A95D41ORS2809 EP type number : 0 410 894 993

Governor

Governer design. : RQV300...1400AB1065

: -23L

Governer no. : 0 420 212 227

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 364
Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.95
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 65.5

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s : 6.0

Rated speed rpm : 300

Rack travel in mm: 8.60 Tolerance mm: + 0.10

Del. quantity

cm3/1000 strokes : 10.0

cm3/1000 strokes : \leftarrow 2.0

Check tolerance	+		
cm3/1000s.	: +- 4.5		
Spreed	+	CONTROL LEVER	
cm3/1000 strokes			
Check tolerance cm3/1000s.		control lever position degree	• 115.0
CIBY 10003.	· 3.3	tolerance degree	· +- 4 N
	1	toto, anto acg. co	
(B) SETTING OF IN	MECTION PUMP +	RATED SPEED	
WITH GOVERNOR	+		
	Ţ	rack travel mm	
GUIDE SLEEVE TRAV	/FI	Rated speed rpm Tolerance 1/min	
COLDE OFFERE WAY	+	TOTEL WHITE THEFT	• •
Rated speed rpm	: 300	rack travel mm	: 4.00
guide sleeve	+	Rated speed rpm	
travel mm	: 1.05	Tolerance 1/min	: +- 15
Tolerance mm	: + 0.25	rack travel mm	: 0.50
Rated speed rpm	: 1500	Tolerance mm	
guide sleeve	<u> </u>	Rated speed rpm	
travel mm	: 8.55		
Tolerance mm	: + 0.05		
Rated speed rpm	: 500	LOW IDLE	
guide sleeve	; 500 I	LOW IDEE	
travel mm	: 2.55		
Tolerance mm	: + 0.25 +	control lever	
	+	position degree	
Rated speed rpm	: 750 +	tolerance degree	: +- 4.0
guide sleeve travel mm	: 4.20	Testing:	
Tolerance mm	1	resurig.	
rocci arroc din	1	Rated speed rpm	: 300
		rack travel mm	: 8.60
GUIDE SLEEVE POSI	TION +	Tolerance mm	: ← 0.10
Rated speed rpm	. 1450	Rated speed rpm	• 100
Rated speed (piii	. 1430	Nated Speed I pin	. 100
Rack travel in mm	: 16.50	CRT mm min.	: > 9.60
Tolerance mm			
	†	Rated speed rpm	: 625
SILL LOAD DELTUED	Y AT FULL LOAD STOP		
ANTE FOWN MEETINEK	T AT TOLL LOAD STOP	TORQUE CONTROL	
Rated speed rpm	: 1400		
Aneroid pressure		Rated speed rpm	: 1400
hPa	: - +	rack travel mm	
Del. quantity	. 45.5	Tolerance mm	: + 0.05
cm3/1000 strokes cm3/1000 strokes		Rated speed rpm	• 400
Check tolerance	1.0	rack travel mm	: 400 : 11.15
cm3/1000s.	: + 3.0 +	Tolerance mm	: +- 0.05
Spreed	+		
cm3/1000 strokes	: 3.5	Rated speed rpm	: 630
Check tolerance	: 6.0	rack travel mm Tolerance mm	
cm3/1000s.	· • • • • I	iorecaure mil	, T- U.IJ
	1	Rated speed rpm	: 925
	+	Rated speed rpm rack travel mm	: 10.55
	·		
K25			

Tolerance mm	: +- 0.15
START CUT-OUT	
Rated speed rpm	: > 100
Rated speed rpm	: > 100 : < 220
Check speed 1/min	: > 80
Check	. > 00
speed 1/min	: < 240
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	: -
Rated speed rpm	400
Del. quantity	. 51.0
cm3/1000 strokes cm3/1000 strokes	: 51.0 : +- 2.0
Check tolerance	
cm3/1000s.	: +- 4.5
Aneroid pressure hPa	: -
Rated speed rpm	· · 630
Del. quantity	
cm3/1000 strokes cm3/1000 strokes	: 53.5 : ← 2.0
Check tolerance	. +- 2.0
cm3/1000s.	: +- 4.5
Aneroid pressure	
Rated speed rpm	925
Del. quantity	
cm3/1000 strokes cm3/1000 strokes	
Check tolerance cm3/1000s.	: ← 4.5
BREAKAWAY	
Rack travel in mm	: 8.90 : 1455
Rated speed rpm Tolerance 1/min	: +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 14.60 : +- 0.20

Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 83.0 : + 5.0 : + 8.0
LOW IDLE	
Rated speed rpm Del. quantity	: 300
cm3/1000 strokes	: 10.0
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.5
Spreed cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS tolerance *NW : +- 0.75 Note remarks Refer to Service Info for test and adjustment instructions. BASIC SETTING See microcard(s) W400/... Del. quantity : 29.11.96 cm3/1000 strokes : 74.5 Edition : ISO 4113 Test oil cm3/1000 strokes : + 0.5 Combination No. : 0 400 846 258 Check tolerance cm3/1000s. : +- 2.5 Injection pump Pump designation : PES6A90D410RS2293Z EP type number : 0 410 896 037 Spreed cm3/1000 strokes : 3.0 Governor Governer design. : RQV300...1425AB740L Check tolerance Governer no. : 0 420 212 037 4.5 cm3/1000s.Rated speed rpm : 300 Cust. part No. : (B) SETTING OF INJECTION PUMP Customer-spec. information WITH GOVERNOR : MB-NFZ Customer TEST BENCH REQUIREMENTS FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1375 Aneroid pressure Test oil inlet 40 hPa temp. °C Tolerance °C : + 2.0 Del. quantity cm3/1000 strokes : 74.5 cm3/1000 strokes : +- 0.5Inlet press. bar : 1.5 Check tolerance cm3/1000s. : +- 2.5 Spreed Opening pressure : 173.5 cm3/1000 strokes : 3.0 bar Tolerance bar : + 1.5 Check tolerance cm3/1000s. 4.5 RATED SPEED REMARKS rack travel mm : 4.00 (A) INJECTION PUMP SETTING VALUES rack travel mm : 4.00 Set equal delivery quant. per values _____ LOW IDLE BEGINNING OF DELIVERY Testing: Test pressure bar :

Tolerance : +- 0.50

rack travel mm : 2.00

Check

Tolerance bar : \leftarrow 1.0

Rated speed rpm : 100

START CUT-OUT

Rated speed rpm : > 100

Check speed 1/min : > 80

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 02.12.96 : ISO 4113

Combination No. : 0 400 846 443

Injection pump

Pump designation : PES6A90D410RS2596 EP type number : 0 410 896 073

Governor

Governer design. : RQV300...1400AB1066

: -1DL

Governer no.

: 0 420 214 251

Cust. part No. :

Customer-spec. information : MB-NFZ Customer Motor : 0M352A : 126.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 har Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

L01

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 74.5

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. • +-2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.

4.5

Rated speed rpm : 300

Rack travel in mm: 9.00

Tolerance mm : \leftarrow 0.10

Del. quantity		+	
cm3/1000 strokes		+	
cm3/1000 strokes	: +- 3.0	+	
Check tolerance cm3/1000s.	: +- 5.0	+ CONTROL LEVER	
Spreed		control lever	44 (0
cm3/1000 strokes Check tolerance		position degree tolerance degree	
cm3/1000s.	: 4.0	+	
		+ RATED SPEED	
(B) SETTING OF IN	NECTION PUMP	🕂 rack travel mm	: 11.40
WITH GOVERNOR		+ Rated speed rpm	
		† Tolerance 1/min	: +- 5
GUIDE SLEEVE TRAV	'EL	rack travel mm	: 4.00
		+ Rated speed rpm	
Rated speed rpm guide sleeve	: 300	† Tolerance 1/min	: + 15
travel mm	: 1.05	rack travel mm	: 0.50
Tolerance mm	: ← 0.25	+ Tolerance mm	: +- 0.50
		+ Rated speed rpm	: 1750
Rated speed rpm guide sleeve	: 1500	‡	
travel mm	: 8.55		
Tolerance mm	: + 0.05	LOW IDLE	
Rated speed rpm	: 500	+	
guide sleeve		+ control lever	
travel mm	: 2.55	position degree	
Tolerance mm	; 0.25	tolerance degree	: ← 4.0
Rated speed rpm	: 750	+ Testing:	
guide sleeve		† Dated and and	. 700
travel mm	: 4.20 : +- 0.10	+ Rated speed rpm + rack travel mm	
Tolerance mm	: +- 0.10	+ Tolerance mm	: + 0.10
·		- +	
GUIDE SLEEVE POSI	TION	Rated speed rpm	: 100
Rated speed rpm	: 1500	CRT mm min.	: > 10.50
Rack travel in mm	. 16 50	+ Rated speed rpm	• 625
Tolerance mm		T Kated speed (pill	. 625
	• • • • • • • • • • • • • • • • • • • •		
FULL LOAD DELTVER	Y AT FULL LOAD STOP	TORQUE CONTROL	
I DEC COUR RECTACK	, ,,, , ,,,,, ,,,,,,,,,,,,,,,,,,,,,,,,,	Rated speed rom	: 1400
Rated speed rpm	: 1400	+ Rated speed rpm + rack travel mm	: 12.45
Aneroid pressure		rack travel mm Tolerance mm	: +- 0.05
hPa	: 700	+	
Del. quantity	- , -	+ Rated speed rpm	
cm3/1000 strokes	: 74.5	rack travel mm	: 13.75
cm3/1000 strokes Check tolerance		Tolerance mm	: - 0.05
cm3/1000s.	: ← 2.5	Rated speed rpm	: 1000
Spreed		+ rack travel mm	: 13.40
cm3/1000 strokes	: 3.0	rack travel mm Tolerance mm	: + 0.10
Check tolerance		+	
cm3/1000s.	: 4.5	+ Rated speed rpm	: 1200

Rated speed rpm : 500 Pressure hPa : 700 rack travel mm : 13.75 Tolerance mm : + 0.05 MEASUREMENT Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.35 Tolerance mm : + 0.05 Rated speed rpm : 500 Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : > 220 Check speed 1/min : > 80 Check speed 1/min : > 80 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Reted speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000s. : + 4.5 Aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure hPa : - aneroid pressure	rack travel mm Tolerance mm	: 12.75 : + 0.15	+ !
Rated speed rpm : 500 Pressure hPa : 700 rack travel mm : 13.75 Tolerance mm : + 0.05 MEASUREMENT Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.35 Tolerance mm : + 0.05 Rated speed rpm : 500 Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500			† + :
Pressure hPa : 700 rack travel mm : 13.75 Tolerance mm : + 0.05 MEASUREMENT Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.35 Tolerance mm : + 0.05 Rated speed rpm : 500 Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : > 220 Check speed 1/min : > 80 Check speed 1/min : > 80 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 s	SETTING		+ !
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.35 Tolerance mm : + 0.05 Rated speed rpm : 500 Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : > 220 Check speed 1/min : > 80 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Aneroid pressure hPa : - Rated speed rpm : 500 Aneroid pressure hPa : - Rated speed rpm : 500 Aneroid pressure hPa : - Rated speed rpm : 500	Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 13.75	+ !
Rated speed rpm : 500 rack travel mm : 12.35 Tolerance mm : + 0.05 Rated speed rpm : 500 Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000 strokes : 76.0 cm3/1000 strokes : 4.5 Aneroid pressure nPa : - Rated speed rpm : 500 Pated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500	MEASUREMENT		+ 3
Pressure hPa : 225 rack travel mm : 12.70 Tolerance mm : + 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 12.35	+ !
rack travel mm : 12.70 Tolerance mm : +- 0.10 Pressure hPa : 350 rack travel mm : 13.25 Tolerance mm : +- 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 Check tolerance cm3/1000s: +- 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	Rated speed rpm	: 500	† !
rack travel mm : 13.25 Tolerance mm : + 0.05 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	Pressure hPa rack travel mm Tolerance mm	: 12.70	† '
Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	Pressure hPa rack travel mm Tolerance mm	: 13.25	† ;
Check Speed 1/min :> 80 Check Speed 1/min :> 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Speed 1/min : 700 Rated speed rpm : 700 Del. quantity Cm3/1000 strokes : 76.0 Cm3/1000 strokes :+ 2.0 Check tolerance Cm3/1000s. :+ 4.5 Aneroid pressure Speed rpm : 500 Del. quantity	START CUT-OUT	<u> </u>	+ 9
speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity			† 9
speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	Check speed 1/min Check	: > 80	+ 0
Aneroid pressure hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity	speed 1/min	: < 240	‡
hPa : 700 Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure nPa : - Rated speed rpm : 500 Del. quantity	FUEL DELIVERY CHA	RACTERISTICS	‡ -
Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure nPa : - Rated speed rpm : 500 Del. quantity	Aneroid pressure		† E
cm3/1000 strokes : 76.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Aneroid pressure nPa : - Rated speed rpm : 500 Del. quantity	Rated speed rpm		<u>†</u>
Aneroid pressure Pa : - Rated speed rpm : 500 Del. quantity	cm3/1000 strokes cm3/1000 strokes		1
nPa : - + + + + + + + + + + + + + + + + + +	cm3/1000s.	: 4.5	1
Del. quantity +	Aneroid pressure hPa Rated speed rpm	: - : 500	+
	Del. quantity	: 56.0	‡

cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 11.40 : 1445 : + 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quartity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 15.60 : + 0.20 : 78.0 : + 5.0 : + 8.0
LOW IDLE	·
Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 300 : 12.0 : + 3.0 : + 5.0 : 2.0 : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 400 846 476

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RQV300...1400AB1141L

Governer no. : 0 420 212 148

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : OM 352A Power KW : 123.6

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Del. quantity cm3/1000 strokes : 75.5

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : +- 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance cm3/1000s. : 4.5

Rated speed rpm : 300

Rack travel in mm: 7.70 Tolerance mm: : + 0.10

Del. quantity

cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

cm3/1000 strokes : 2.0

Check tolerance cm3/1000s. : 4.0 control lever position degree : 15.0 tolerance degree : +- 4.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR Testing: Rated speed rpm : 300 rack travel mm : 7.70 : + 0.10 GUIDE SLEEVE POSITION Tolerance mm Rated speed rpm : 1420 Rated speed rpm : 100 CRT mm min. : > 9.20 Rack travel in mm: 17.70 Tolerance mm : + 1.70 Rated speed rpm : 413 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1375 ANEROID/ALTITUDE Aneroid pressure COMPENSATOR TEST 700 hPa Del. quantity 75.5 cm3/1000 strokes : SETTING cm3/1000 strokes : +- 0.5 Check tolerance Rated speed rpm : 1375 Pressure hPa : 700 rack travel mm : 11.35 cm3/1000s.2.5 rack travel mm : Spreed Tolerance mm : \leftarrow 0.05 cm3/1000 strokes : 3.0 Check tolerance 4.5 MEASUREMENT cm3/1000s. Pressure hPa Rated speed rpm : 1375 rack travel mm : 11.05 CONTROL LEVER : +- 0.05 Tolerance mm control lever Rated speed rpm : 1375 position degree : 61.0 tolerance degree : +- 4.0 Pressure hPa : 280 rack travel mm : 11.15 RATED SPEED Tolerance mm : \leftarrow 0.05 rack travel mm : 10.30 Rated speed rpm : 1440 Tolerance 1/min : +- 5 START CUT-OUT rack travel mm : 4.0 Rated speed rpm : 1565 Rated speed rpm : > Rated speed rpm : < 4.00 100 220 Tolerance 1/min : + 15 Check speed 1/min : > 80 Check speed 1/min : < 240 Rated speed rpm : 1650 FUEL DELIVERY CHARACTERISTICS LOW IDLE Aneroid pressure Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 57.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +-3.0 BREAKAWAY Rack travel in mm : 10.30 Rated speed rpm : 1440 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY Rated speed rpm : 100 14.50 rack travel mm : Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : \leftarrow 5.0 Check tolerance cm3/1000s. : +- 8.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s. : **←** 5.0 Spreed cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. 4.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 400 846 477

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RQV300...1400AB1142L

Governer no. : 0 420 212 149

Cust. part No.

Customer—spec. information Customer : MB-NFZ Motor : OM 352A

Power KW : 123.6

TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

BASIC SETTING

Del. quantity cm3/1000 strokes : 75.5

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 4.5

Rated speed rpm : 300

Rack travel in mm : 7.70 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 12.0 cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : + 5.0

Spreed

cm3/1000 strokes : 2.0

Check tolerance cm3/1000S. : 4.0 control lever position degree : 15.0 tolerance degree : + 4.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR Testing: Rated speed rpm : 300 rack travel mm : 7.70 Tolerance mm : +- 0.10 GUIDE SLEEVE POSITION Rated speed rpm : 1420 Rated speed rpm : 100 Rack travel in mm : 17.70 Tolerance mm : + 1.70 CRT mm min. : > 9.20 Rated speed rpm : 413 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1375 ANEROID/ALTITUDE Aneroid pressure COMPENSATOR TEST hPa : 700 Del. quantity cm3/1000 strokes : 75.5 SETTING cm3/1000 strokes : +- 0.5 Rated speed rpm : 1375 Check tolerance Pressure hPa : 700 rack travel mm : 11.35 Tolerance mm : + 0.05 : +- 2.5 cm3/1000s. Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 4.5 MEASUREMENT Pressure hPa Rated speed rpm : 1375
rack travel mm : 11.05
Tolerance mm : +- 0.05 CONTROL LEVER control lever position degree : 61.0 Rated speed rpm : 1375 tolerance degree : +- 4.0 Pressure hPa : 280 rack travel mm : 11.15 RATED SPEED Tolerance mm : + 0.05 rack travel mm : 10.30 Rated speed rpm : 1440 Tolerance 1/min : + 5 START CUT-OUT rack travel mm : 4.00 Rated speed rpm : > 100 Rated speed rpm : 1565 Rated speed rpm : < 220 Tolerance 1/min : + 15 Check rack travel mm : 0.50 Tolerance mm : + 0.50 speed 1/min : > 80 Check Rated speed rpm : 1650 speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS LOW IDLE Aneroid pressure hPa Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 57.0 cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

BREAKAWAY

Rack travel in mm: 10.30 Rated speed rpm: 1440 Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.50 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 76.0 cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm : 300
Del. quantity
cm3/1000 strokes : 12.0
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 5.0
Spreed
cm3/1000 strokes : 2.0
Check tolerance
cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.11.96 Test oil : ISO 4113

Combination No. : 0 400 846 584

Injection pump

Pump designation : PES6A95D410RS2797 EP type number : 0 410 896 900

Governor

Governer design. : RQV300...1400AB1065

: -20L

Governer no. : 0 420 212 225

Cust. part No. :

Customer—spec. information
Customer : MB—NFZ
Motor : CM 366
Power KW : 97.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

L10

x inside diameter: 1.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 67.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 6.0

Rated speed rpm : 300

Rack travel in mm: 8.10

Tolerance mm : +- 0.10

Del. quantity		+	
cm3/1000 strokes	: 12.0	+	
cm3/1000 strokes	: +- 2.0	+	
Check tolerance cm3/1000s.	: +- 4.5	† CONTROL LEVER	
Spreed	4.5	T control lever	
cm3/1000 strokes	: 3.5	+ position degree	
Check tolerance	: 5.5	+ tolerance degree	: +- 4.0
cm3/1000s.	: 3.3	T RATED SPEED	
		+	
(B) SETTING OF IN	JECTION PUMP	+ rack travel mm	: 8.30
WITH GOVERNOR		+ Rated speed rpm + Tolerance 1/min	
		+	
GUIDE SLEEVE TRAV	/EL	+ rack travel mm	: 4.00
Rated speed rpm	: 300	+ Rated speed rpm + Tolerance 1/min	
guide sleeve	. 333	+	• • • • • • • • • • • • • • • • • • • •
travel mm	: 1.05	+ rack travel mm	: 0.50
Tolerance mm	: +- 0.25	+ Tolerance mm + Rated speed rpm	: + 0.50 : 1670
Rated speed rpm	: 1500	Hatta speed (pill	1070
guide sleeve		+	
travel mm Tolerance mm	: 8.55 : ← 0. 0 5	LOW IDLE	
roterance min	6.65	+	
Rated speed rpm	: 500	+	
guide sleeve travel mm	: 2.55	+ control lever + position degree	: 74.0
Tolerance mm	: + 0.25	tolerance degree	
		+	
Rated speed rpm	: 750	+ Testing:	
guide sleeve travel mm	: 4.20	Rated speed rpm	: 300
Tolerance mm	: ← 0.10	+ rack travel mm	: 8.10
		† Tolerance mm	: +- 0.10
GUIDE SLEEVE POSI	TION	Rated speed rpm	: 100
Dakad amaad maa	. 1/50	+ CRT mm min.	: > 9.50
Rated speed rpm	: 1430	T CKI IMII III III.	. > 9.50
Rack travel in mm		+ Rated speed rpm	: 515
Tolerance mm	: +- 1.30	İ	
		TORQUE CONTROL	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	+ Bakadanaadanaa	- 4/00
Rated speed rpm	: 1400	+ Rated speed rpm + rack travel mm	: 1400 : 9.35
Aneroid pressure	. 1400	+ Tolerance mm	: +- 0.05
hPa	: -	† Batasi anasil ana	. 500
Del. quantity cm3/1000 strokes	: 67.0	+ Rated speed rpm + rack travel mm	
cm3/1000 strokes		Tolerance mm	
Check tolerance		+	
cm3/1000s.	: +- 3.0	+ Rated speed rpm	: 900 : 9.65
Spreed cm3/1000 strokes	: 3.5	+ rack travel mm + Tolerance mm	: + 0.15
Check tolerance		+	
cm3/1000s.	: 6.0	+	

START CUT-OUT

100 Rated speed rpm :> 220 Rated speed rpm : <

Check

speed 1/min : > 80

Check

speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 54.5 cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s.: +- 4.0

BREAKAWAY

Rack travel in mm : 8.30 Rated speed rpm : 1455 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm : 13.90 : **+-** 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 83.0

cm3/1000 strokes : +- 5.0

Check tolerance

: +- 8.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 300 Del. quantity

cm3/1000 strokes : 12.0 cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s.

4.5 Spreed cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 074 876

Injection pump

Pump designation : PES4M60C320RS185 EP type number : 0 410 064 006

Governor

Governer design. : RSF360/1900M84 Governer no. : 0 420 021 287

Cust. part No. :

Customer-spec. information Customer : MB-PKW

: 0M601 D23 LA Motor

Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet

40 temp. °C Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : \leftarrow 1.00

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolerance : +- 0.20

Check

: +- 0.30 tolerance *NW

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.80 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 59.5

cm3/1000 strokes : + 0.7

Check tolerance : + 1.7 cm3/1000s.

Spreed

cm3/1000 strokes : 3.0

Check tolerance	
cm3/1000s.	: 3.5
Rated speed rpm	: 360
Rack travel in mm	: 5.90
Tolerance mm	: + 0.10
Del. quentity	
cm3/1000 strokes	: 6.5
cm3/1000 strokes	
Spreed	
cm3/1000 strokes	: 1.0
(B) SETTING OF IN.	JECTION PUMP
WITH GOVERNOR	
IDLE STAGE	
Rack travel in mm	: 6.00
Tolerance mm	: - 0.10
FILL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm	: 900
Ref. pressure	. 1950
ALDA / ADA hPa	: 1850
Del. quantity	50.5
cm3/1000 strokes	: 59.5
	: ← 0.7
Check tolerance	. 4.7
cm3/1000s.	: ← 1.7
Spreed	
cm3/1000 strokes	: 3.0
Check tolerance	
cm3/1000s.	: 3.5
RATED SPEED	
control lever position degree	: 50.0
Rated speed rpm	: 2150
rack travel mm Tolerance mm	: 6.60
Tolerance mm	: + 0.20
Rated speed rpm	: 2600
rack travel mm	: 0.50
Tolerance mm	: ← 0.50
SET IDLE CONTROL L	EVER POSITION
Rated speed rpm	
respectable . Min	

CRT mm max.	: 1.95
LOW IDLE	This hidd Things Things ago ago ago ago an ago a a barran ago a a barran ago an ago an ago ang barran barran a
control lever position degree tolerance degree	: 12.0 : + 2.0
Setting point w/o Rated speed rpm rack travel mm	: 360
SET IDLE AUXILIAR	Y SPRING
Rated speed rpm rack travel mm Tolerance mm	
Load pick-up	
Rated speed rpm rack travel mm	: 200 : 12.20
Rated speed rpm	: 900
CRT mm max.	: 1.95
rack travel mm Rated speed rpm	: 5.90 : 360
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1500 : 13.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1900 : 12.50 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 500 : 15.30 : ← 0.30
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.15 : + 0.10

SETTING	+ Spreed
Rated speed rpm : 900	+ cm3/1000 strokes : 3.0 + Check tolerance
Ref. pressure	- cm3/1000s. : 3.5
ALDA / ADA hPa : 1600	+
rack travel mm : -0.25	Ref. pressure
Tolerance mm : +- 0.20	+ ALDA / ADA hPa : 1850 + Rated speed rpm : 500
MEASUREMENT	
PIEMOUNEFICIAL	+ Del. quantity + cm3/1000 strokes : 64.3
Rated speed rpm : 900	+ cm3/1000 strokes : +- 2.0
Ref. pressure ALDA / ADA hPa : 1100	+ Check tolerance
ALDA / ADA hPa : 1100 rack travel mm : -2.65	cm3/1000s. : + 3.0 cm3/1000 strokes : 3.0
Tolerance mm : + 0.10	
	cm3/1000s. : 3.5
Ref. pressure	†
ALDA / ADA hPa : 750	+ Ref. pressure + ALDA / ADA hPa : 1100
rack travel mm : −4.30 Tolerance mm : ← 0.20	+ Rated speed rpm : 900
TO COT GIFTO CHAIN	Del. quantity
	+ cm3/1000 strokes : 43.0
FUEL DEL TUEDY CHARACTERIOTICS	+ cm3/1000 strokes : +- 0.7
FUEL DELIVERY CHARACTERISTICS	+ Check tolerance + cm3/1000s. : +- 1.7
Ref. pressure	Spreed
ALDA / ADA hPa : 1850	+ cm3/1000 strokes : 3.0
Rated speed rpm : 1500	+ Check tolerance
Del. quantity cm3/1000 strokes : 58.0	- cm3/1000s. : 3.5
cm3/1000 strokes : +- 1.0	Ţ
Check tolerance	I
Check tolerance cm3/1000S. : +- 2.0	HIGH IDLE
Check tolerance cm3/1000S. : +- 2.0 Spreed	+
Check tolerance cm3/1000s. : +- 2.0 Spreed cm3/1000 strokes : 3.0	Ref. pressure
Check tolerance cm3/1000S. : +- 2.0 Spreed	Ref. pressure + ALDA / ADA hPa : 1850 + Rated speed rpm : 2150
Check tolerance cm3/1000s. : +- 2.0 spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5	Ref. pressure + ALDA / ADA hPa : 1850 + Rated speed rpm : 2150 + rack travel mm : 6.60
Check tolerance cm3/1000s. : +- 2.0 spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20
Check tolerance cm3/1000s. : +- 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity
Check tolerance cm3/1000s. : +- 2.0 spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : +- 2.2
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance cm3/1000s. : + 3.2
Check tolerance cm3/1000s. : +- 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : +- 1.2	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed cm3/1000 strokes : 3.0
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000 strokes : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s. : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s : + 2.2 Check tolerance cm3/1000s : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s : 3.5
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s : + 2.2 Check tolerance cm3/1000s : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000 strokes : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1100	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s. : + 2.2 Check tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000 strokes : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : > 20.10
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 900	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s. : + 2.2 Check tolerance cm3/1000s. : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : > 20.10 Del. quantity
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 43.0	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s. : + 2.2 Check tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000 strokes : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : > 20.10
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 43.0 cm3/1000 strokes : 43.0 cm3/1000 strokes : 43.0 cm3/1000 strokes : + 0.7	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s trokes : + 2.2 Check tolerance cm3/1000s : + 3.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : > 20.10 Del. quantity cm3/1000 strokes : 54.3 cm3/1000 strokes : 54.3 cm3/1000 strokes : 54.3 cm3/1000 strokes : + 4.0 Check tolerance
Check tolerance cm3/1000s. : + 2.0 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 1900 Spreed Del. quantity cm3/1000 strokes : 55.5 cm3/1000 strokes : + 1.2 Check tolerance cm3/1000s. : + 2.2 Spreed cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 43.0	Ref. pressure ALDA / ADA hPa : 1850 Rated speed rpm : 2150 rack travel mm : 6.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 21.4 cm3/1000s. : + 2.2 Check tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 3.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : > 20.10 Del. quantity cm3/1000 strokes : 54.3 cm3/1000 strokes : 54.3 cm3/1000 strokes : 54.3

cm3/1000 strokes : 8.0 Check tolerance

: 8.5 cm3/1000s.

LOW IDLE

Rated speed rpm : 360 rack travel mm : 5.90 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 7.8 Check tolerance cm3/1000s. : +- 2.3

Spreed

Check tolerance

cm3/1000s. : 1.5

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : + 2.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

Rated speed rpm : 360

Rack travel in mm : 13.70 Tolerance mm : + 0.70 Del. quantity

cm3/1000 strokes : 53.8 cm3/1000 strokes : + 3.5

: 1.80 Current A

Rated speed rpm : 2600

Rack travel in mm: 0.50 Tolerance mm : + 0.50

Current short-duration A : 3.00 duration A

Starting test

Rated speed rpm : 100

Current A : 1.80

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 360 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.11.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 074 883

Injection pump

Pump designation : PES4M60C320RS185 EP type number : 0 410 064 006

Governor

Governer design. : RSF375/1900M78 Governer no. : 0 420 021 274

Cust. part No. :

Customer-spec. information Customer : MB-PKW

: 0M601 D23 LA Motor

Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 1 469 990 351 Overflow valve

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm Tolerance mm 2.05 : +- 0.05 Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 17.00 : +- 0.20Tolerance

Check

tolerance *NW : +- 0.30

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.80 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 59.5

cm3/1000 strokes : +- 0.7

Check tolerance

: **←** 1.7 cm3/1000s.

Spreed

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 3.5

Dakad amaad maa		1	
Rated speed rpm :	375	1	LOW IDLE
Rack travel in mm :	6.00	1	COW IDEC
	+ 0.10	1	
Del. quantity		1	control lever
cm3/1000 strokes :	6.5	1	position degr
cm3/1000 strokes :	← 0.5	1	tolerance deg
Spreed		1	
cm3/1000 strokes :	1.0	+	Setting point
		+	Rated speed r
		+	rack travel m
(B) SETTING OF INJE	CTION PUMP	+	
WITH GOVERNOR		+	SET IDLE AUXI
		+	5
TALE OTAGE			Rated speed r
IDLE STAGE		†	rack travel m
		†	Tolerance mm
Rack travel in mm :	6 00	Ī	Load pick-up
	+- 0.10	I	Load bick up
TOTEL GIFTE THEIR	0.10	I	Rated speed r
		[rack travel m
FULL LOAD DELIVERY	AT FULL LOAD	STOP 1	. III. Grafic II
		+	Rated speed r
Rated speed rpm :	900	+	·
Ref. pressure		+	CRT mm max.
ALDA / ADA hPa :	1850	+	
Del. quantity		+	rack travel m
cm3/1000 strokes :		+	Rated speed r
cm3/1000 strokes :	← 0.7	+	
Check tolerance	_	+	
cm3/1000S. :	+- 1.7	+	
Spreed		+	TORQUE CONTRO
cm3/1000 strokes :	3.0	+	
Check tolerance		+	Rated speed r
cm3/1000s. :	3.5	+	rack travel m
		†	Tolerance mm
DATEN SPEEN		T	
RATED SPEED		Ŧ	Rated speed r
RATED SPEED		+	Rated speed r rack travel m
		+	Rated speed r rack travel m
control lever	50.0	+	Rated speed r rack travel m Tolerance mm
control lever	50.0	+	Rated speed r rack travel m Tolerance mm Rated speed r
control lever position degree :		+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m
RATED SPEED control lever position degree : Rated speed rpm : rack travel mm :	2200	† † † †	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m
control lever position degree : Rated speed rpm :	2200	† † † † †	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm :	2200 8.30 ← 0.20	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm :	2200 8.30 ← 0.20 2600	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm :	2200 8.30 ← 0.20 2600 0.50	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm :	2200 8.30 ← 0.20 2600	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm :	2200 8.30 ← 0.20 2600 0.50	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm : Tolerance mm :	2200 8.30 + 0.20 2600 0.50 + 0.50	+++++++++++++++++++++++++++++++++++++++	Rated speed rack travel mack t
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm : Tolerance mm :	2200 8.30 + 0.20 2600 0.50 + 0.50	+++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm : Tolerance mm :	2200 8.30 + 0.20 2600 0.50 + 0.50 /ER POSITION	+++++++++++++++++++++++++++++++++++++++	Rated speed rrack travel moderance m
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : Rated speed rpm : rack travel mm :	2200 8.30 + 0.20 2600 0.50 + 0.50 /ER POSITION	++++++++++++++++++++++++++++++++++++++	Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm ADJUSTMENT TE SETTING Rated speed r
control lever position degree : Rated speed rpm : rack travel mm : Tolerance mm : rack travel mm : Tolerance mm : SET IDLE CONTROL LEV	2200 8.30 + 0.20 2600 0.50 + 0.50 /ER POSITION		Rated speed r rack travel m Tolerance mm Rated speed r rack travel m Tolerance mm Tolerance mm

LOW IDEC	
control lever position degree tolerance degree	: 12.0 : +- 2.0
Setting point w/c Rated speed rpm rack travel mm	out bumper spring : 375 : 6.00
SET IDLE AUXILIAN	RY SPRING
Rated speed rpm rack travel mm Tolerance mm	: 500 : 4.20 : ← 0.10
Load pick-up	
Rated speed rpm rack travel mm	: 250 : > 9.00
Rated speed rpm	: 900
CRT mm max.	: 1.95
rack travel mm Rated speed rpm	: 6.00 : 375
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.80 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1500 : 13.20 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1900 : 12.50 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.15 : + 0.10
ADJUSTMENT TEST A	DA/ALDA
SETTING	
Rated speed rpm Ref. pressure ALDA / ADA hPa	: 900 : 1600

Tolerance mm MEASUREMENT Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: 900 : 1100 : -2.65 : ← 0.10 : 750 : -4.30	+++++++++++++++++++++++++++++++++++++++	Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 900 : 43.0 : ← 0.7 : ← 1.7 : 3.0
FUEL DELIVERY CHA	PACTERISTICS		HIGH IDLE Ref. pressure	
FUEL DELIVERY CHA	KACIEKISI163	Ī	ALDA / ADA hPa	• 1850
Ref. pressure		I	Rated speed rpm	• 2200
ALDA / ADA hPa	1850	1	rack travel mm	: 830
Rated speed rpm	: 1500	1	Tolerance mm	
Del. quantity		1	Del. quantity	
cm3/1000 strokes	: 58.0	1	cm3/1000 strokes	: 31.0
cm3/1000 strokes	: ← 1.0	+	cm3/1000 strokes	: +- 2.2
Check tolerance		+	Check tolerance cm3/1000s.	
cm3/1000s.	: 2.0	+	cm3/1000s.	: ← 3.2
Spreed		+	Spreed	
cm3/1000 strokes	: 3.0	+	cm3/1000 strokes	: 3.0
Check tolerance		+	Check tolerance	
cm3/1000s.	: 3.5	+	cm3/1000s.	: 3.5
		+		
Ref. pressure		+		
ALDA / ADA hPa		+	STARTING FUEL DEL	IVERY
Rated speed rpm	: 1900	+		
Spreed		+	Rated speed rpm	: 100
Del. quantity		+	rack travel mm	: > 20.10
cm3/1000 strokes		+	Del. quantity	
cm3/1000 strokes		+	cm3/1000 strokes	
Check tolerance		+	cm3/1000 strokes	: ← 4.0
cm3/1000s.	: +- 2.2	†	Check tolerance	
Spreed	. 7 A	Ť	cm3/1000s.	: +- 5.0
cm3/1000 strokes	: 3.0	†	Spreed	
Check tolerance	. 75	†	cm3/1000 strokes	: 8.0
cm3/1000s.	: 3.5	†	Check tolerance cm3/1000s.	: 8.5
Dof procure		Ī	CND/ TUUUS.	. 0.3
Ref. pressure ALDA / ADA hPa	• 1100	Ī		
Rated speed rpm		I		
Del. quantity	. ,00	I		
cm3/1000 strokes	: 43.0	1	LOW IDLE	
cm3/1000 strokes		1	==	
Check tolerance	<u>- • • • • • • • • • • • • • • • • • • •</u>	1	Rated speed rpm	: 375
cm3/1000s.	: +- 1.7	+	Del. quantity	
Spreed		+	cm3/1000 strokes	: 7.8
cm3/1000 strokes	: 3.0	+	Check tolerance	
Check tolerance		+	cm3/1000s.	: +- 2.3
cm3/1000S.	: 3.5	+	Spreed	
		+	Check tolerance	
		+	cm3/1000s.	: 1.5

control lever

position degree : > 42.00

control lever

position degree : < 39.50

SETTING PNEUMATIC FAST IDLE (PLA) (PLA) POSITION

control lever

position degree : 12.0 tolerance degree : +- 2.0

Rated speed rpm : 425

Rack travel in mm : 8.40 Tolerance mm : + 0.80

Del. quantity

cm3/1000 strokes : 21.5 cm3/1000 strokes : + 3.5

Check tolerance

cm3/1000S. : +- 4.5 Vacuum hPa : 450.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375 Vacuum hPa : -450.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.11.96 Test oil : ISO 4113

Combination No. : 0 401 848 708

Injection pump

Pump designation : PE8P110A320LS3802

: -10

EP type number : 0 411 818 710

Governor

Governer design. : RQ300/1150PA187-3 Governer no. : 0 421 801 133

Cust. part No. :

Customer—spec. information
Customer : MB-NFZ
Motor : 0M422
Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. 1/h : 110 Tolerance 1/h : + 10.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : \leftarrow 0.30

Check

tolerance 'NW : \leftarrow 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 11.75

Tolerance mm : +- 0.05

_	+ Rated speed rpm : 650
Del. quantity cm3/1000 strokes : 114.0	Rack travel in mm: 13.50 Tolerance mm: + 0.50
cm3/1000 strokes : + 1.0	
Check tolerance cm3/1000s. : + 3.5	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 750
Spreed cm3/1000 strokes : 4.0	Aneroid pressure hPa Del. quantity
Check tolerance cm3/1000s. : 7.0	cm3/1000 strokes : 114.0 cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm : 300	cm3/1000s. : +- 3.5 Spreed
Rack travel in mm : 8.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 18.0	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.0
<pre>cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.5 Second</pre>	CONTROL LEVER
Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.0	position degree : 43.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	RATED SPEED rack travel mm : 10.70 Rated speed rpm : 1203 Tolerance 1/min : + 8
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00 Rated speed rpm : 1255
Rated speed rpm : 300 guide sleeve	Tolerance 1/min : +- 15
travel mm : 2.20 Tolerance mm : + 0.10	- rack travel mm : 0.75 - Tolerance mm : + 0.75 - Rated speed rpm : 1350
Rated speed rpm : 1250 guide sleeve	‡
travel mm : 9.80 Tolerance mm : + 0.50	LOW IDLE
Rated speed rpm : 650 guide sleeve travel mm : 7.00	control lever position degree : 18.0
Tolerance mm : + 0.10	tolerance degree : + 4.0
Rated speed rpm : 1200 guide sleeve travel mm : 7.50	+ Testing: + Rated speed rpm : 300
Tolerance mm : + 0.20	rack travel mm : 8.10 Tolerance mm : + 0.10
GUIDE SLEEVE POSITION	rack travel mm : 2.00 Rated speed rpm : 440

Tolerance 1/min	: +-	20
Rated speed rpm	:	100
CRT mm min.	: >	10.20
Rated speed rpm	:	550
CRT mm max.	; <	1.80
TORQUE CONTROL		

Rated speed rpm	:	750
rack travel mm	:	11.75
Tolerance mm	: +	- 0.05

Rated speed rpm : 1150 rack travel mm : 11.75 Tolerance mm : ← 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid	pressure

:		_
:		1150
:		134.0
:	+-	2.0
:	+-	5.0
:		5.0
:		8.0
	•	: : +-

BREAKAWAY

Rack travel in mm	:	10.70
Rated speed rpm	:	1203
Tolerance 1/min	:	+ 8

STARTING FUEL DELIVERY

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes	:	140.0
cm3/1000 strokes	: +	
Check tolerance		
cm3/1000s.	: +	- 14.0

LOW IDLE

Rated speed rpm	:	300	
Del. quantity			
cm3/1000 strokes	:	18.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance			
cm3/1000s.	: +-	5.5	
Spreed			
cm3/1000 strokes	:	4.0	
Check tolerance			
cm3/1000s.	:	7.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.11.96 Edition Test oil : ISO 4113

Combination No. : 0 401 848 761

Injection pump

Pump designation : PE8P120A320LS3807

: -10

EP type number : 0 411 828 713

Governor

Governer design. : RQ300/1150PA546-9

Governer no. : 0 421 801 375

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M422 LA Power KW : 276.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 110 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : **←** 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 11.55

Tolerance mm : \leftarrow 0.05

	4	- Tolerance mm : +- 0.25
Del. quantity	-	-
cm3/1000 strokes	: 176.0	
7.4000	+	- GUIDE SLEEVE POSITION
cm3/1000 strokes	: + 1.0 †	- Botod ancod nom . 400
Check tolerance		- Rated speed rpm : 600
cm3/1000s.	: +- 4.0	- Rack travel in mm : 20.00
	 +	- Tolerance mm : + 0.80
Spreed	+	•
cm3/1000 strokes	: 5.0	SING LOAD DELTUEDY AT SUN LOAD COOR
Check tolerance	<u> </u>	- FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: 9.0	- Rated speed rpm : 1150
	+	- Aneroid pressure
Rated speed rpm	: 300	- hPa : 700
	†	Del. quantity
Rack travel in mo	n: 5.10	- cm3/1000 strokes : 176.0 - cm3/1000 strokes : +- 1.0
Tolerance mm	: + 0.10	- Check tolerance
Del. quantity	+	- cm3/1000s. : +- 4.0
cm3/1000 strokes		- Spreed
cm3/1000 strokes	: +- 4.0	- cm3/1000 strokes : 5.0
Check tolerance cm3/1000s.	: + 7.0	- Check tolerance - cm3/1000s. : 9.0
Spreed	1	
cm3/1000 strokes	: 8.0 	
Check tolerance	+	
cm3/1000s.	: 12.0	- CONTROL LEVER
	I	· control lever
(B) SETTING OF IN	JECTION PUMP	position degree : 93.0
WITH GOVERNOR	+	tolerance degree : +- 4.0
	†	. DATES COEFS
GUIDE SLEEVE TRAV	/FL #	RATED SPEED
	+	rack travel mm : 10.50
Rated speed rpm	: 300 +	Rated speed rpm : 1203
guide sleeve	: 1.70	Tolerance 1/min : +- 8
travel mm	• 1 ///	Caracian and Committee of the Caracian and C
Tolerance mm	: + 0.10	rack travel mm : 4.00
Rated speed rpm		
Rated speed rpm guide sleeve	: + 0.10 : 1210	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm	: + 0.10 : 1210 : 6.65	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : +- 15 rack travel mm : 0.75
Rated speed rpm guide sleeve	: + 0.10 : 1210	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 1210 : 6.65 : + 0.15	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : +- 15 rack travel mm : 0.75
Rated speed rpm guide sleeve travel mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 1210 : 6.65 : + 0.15 : 600	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00 : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : + 0.10 : 1150 : 6.25	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400 LOW IDLE control lever position degree : 73.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00 : + 0.10 : 1150	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400 LOW IDLE control lever
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00 : + 0.10 : 1150 : 6.25 : + 0.05	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400 LOW IDLE control lever position degree : 73.0 tolerance degree : + 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : + 0.10 : 1150 : 6.25	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400 LOW IDLE control lever position degree : 73.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: + 0.10 : 1210 : 6.65 : + 0.15 : 600 : 6.00 : + 0.10 : 1150 : 6.25 : + 0.05	rack travel mm : 4.00 Rated speed rpm : 1270 Tolerance 1/min : + 15 rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1400 LOW IDLE control lever position degree : 73.0 tolerance degree : + 4.0

rack travel mm	: 5.10	+ Aneroid pressure
rack travel mm Tolerance mm	· + 0.10	+ hPa : 700
ioterance min	0.10	Rated speed rpm : 750
	0.00	+ Rated speed rpm : 750
rack travel mm	: 2.00	+ Del. quantity
Rated speed rpm		Del. quantity cm3/1000 strokes : 188.5
Tolerance 1/min	: +- 25	+ cm3/1000 strokes : +- 1.5
		+ Check tolerance
Rated speed rpm	• 200	Check tolerance cm3/1000s. : +- 4.5
Mateu Specu i pii	. 200	Spreed
CRT mm min.	. > 7.40	- cm3/1000 strokes : 8.0
CRI mm min.	: > 7.10	
		† Check tolerance
		+ cm3/1000s. : 12.0
TORQUE CONTROL		+
		+ Aneroid pressure
Dimension a mm	: 0.20	+ hPa : -
Rated speed rpm	: 1150	+ Rated speed rpm : 500
nack travel mo	11 55	+ Del. quantity
rack travel mm Tolerance mm	. 17.55	7 Det. qualitity
ioterance mm	; 0.05	- cm3/1000 strokes : 138.0
		+ cm3/1000 strokes : + 1.0
Rated speed rpm rack travel mm	: 750	+ Check tolerance + cm3/1000s. : +- 4.0
rack travel mm	: 11.90	+ cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: + 0.10	Spreed
		+ cm3/1000 strokes : 8.0
		Check tolerance
ANEDOTO / AL TITUDE		+ cm3/1000s. : 12.0
ANEROID/ALTITUDE		+ CM3/10003. : 12.0
COMPENSATOR TEST		<u>†</u>
		+ BREAKAWAY
SETTING		+
		+
Rated speed rpm	: 500	+ Rack travel in mm : 10.50
Pressure hPa	: -	+ Rated speed rpm : 1203
	•	+ Tolerance 1/min : + 8
MEASUREMENT		1 Total dilec 17 milli
PROCEEDING		
Onnonius bos	. /10	T
Pressure hPa Rated speed rpm	; 41U	OTANTALO SUEL ASI TUESU
Rated speed rpm	: 500_	+ STARTING FUEL DELIVERY
rack travel mm	: 0.35	+
Tolerance mm	: ← 0.05	+ Rated speed rpm : 100
		+ Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 150.0
varen sheen thin	. 500	- cm3/1000 strokes : +- 10.0
Pressure hPa	• (.00	+ Check tolerance
		7/40000
rack travel mm	: 1.05	- cm3/1000s. : +- 14.0
rack travel mm Folerance mm	: 1.05	cm3/1000s. : +- 14.0
rack travel mm Folerance mm	: 1.05	cm3/1000s. : +- 14.0
rack travel mm Tolerance mm	: 1.05	cm3/1000s. : +- 14.0
Tolerance mm	: 1.05	cm3/1000s. : +- 14.0
Tolerance mm	: 1.05	cm3/1000s. : +- 14.0
Tolerance mm START CUT-OUT	: 1.05 : + 0.15	cm3/1000s. : + 14.0
Tolerance mm START CUT-OUT Rated speed rpm	: 1.05 : + 0.15 	cm3/1000s. : + 14.0
Tolerance mm START CUT-OUT Rated speed rpm	: 1.05 : + 0.15 : > 100	cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: 1.05 : + 0.15 	cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check	: 1.05 : + 0.15 : > 100 : < 220	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: 1.05 : + 0.15 : > 100 : < 220	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min	: 1.05 : + 0.15 : > 100 : < 220	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: 1.05 : ← 0.15 : > 100 : < 220 : > 80	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0 Check tolerance
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: 1.05 : ← 0.15 : > 100 : < 220 : > 80	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 7.0
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: 1.05 : ← 0.15 : > 100 : < 220 : > 80	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 7.0 Spreed
Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 1.05 : + 0.15 : > 100 : < 220 : > 80 : < 240	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 7.0 Spreed cm3/1000 strokes : 8.0
rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 1.05 : + 0.15 : > 100 : < 220 : > 80 : < 240	Cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 16.0 cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 7.0 Spreed

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 29.11.96

Combination No. : 0 401 849 757

Injection pump

Pump designation : PE10P120A520/4LS3863

EP type number : 0 411 897 711

Governor

Governer design. : RQ300/900PA1230 Governer no. : 0 421 801 792

Cust. part No. :

Customer-spec. information

Customer : DAEWOO : D2840LE Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 : + 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + C.1

Overflow quantity min. L/h : 100 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05 Check

REMARKS

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 10-9-4-1-8

: - 7- 6- 3- 5 : - 2

: 0-45-72-117-144 Phasing

: -189-216-261-288

: -333

Tolerance : +- 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : + 0.50

Check

: +- 0.75 tolerance °NW

Barrel no. : 10

BASIC SETTING

Rated speed rpm : 850

	+	Rated speed rpm : 510
Rack travel in mm): 12.90 	guide sleeve
Tolerance mm	: +- 0.05 +	travel mm : 6.00
	 	Tolerance mm : + 0.10
Del. quantity	+	
cm3/1000 strokes	: 208.Ú }	Rated speed rpm : 1050
	 	guide sleeve
cm3/1000 strokes	: + 1.0 +	travel mm : 11.50
		Tolerance mm : + 0.50
Check tolerance	+	
cm3/1000s.	: ← 4.0 }	
		GUIDE SLEEVE POSITION
Spreed	+	
cm3/1000 strokes	: 6.0	Rated speed rpm : 600
Check tolerance	+	Rack travel in mm : 20.00
cm3/1000s.	: 10.0 +	Tolerance mm : +- 0.80
	+	
Rated speed rpm	: 300 +	
	+	FULL LOAD DELIVERY AT FULL LOAD STOP
	+	
Rack travel in mm	•	Rated speed rpm : 850
Tolerance mm	: + 0.10 +	Aneroid pressure
Del. quantity	+	hPa : -
cm3/1000 strokes		Del. quantity
cm3/1000 strokes	: + 3.0 +	cm3/1000 strokes : 208.0
Check tolerance	+	cm3/1000 strokes : +- 1.0
cm3/1000s.	: + 6.0 +	Check tolerance
Spreed	<u> </u>	cm3/1000s. : +- 4.0
cm3/1000 strokes	: 7.0	Spreed
Check tolerance	10.0	cm3/1000 strokes : 6.0
cm3/1000s.	: 11.0	Check tolerance cm3/1000s. : 10.0
	Ţ.	cm3/1000s. : 10.0
(B) SETTING OF IN	JECTION DIMP	
WITH GOVERNOR	JECTION FOR	
WITH GOVERNOR	1	CONTROL LEVER
		out the caret
GUIDE SLEEVE TRAV	EL +	control lever
	<u>.</u>	position degree : 32.0
Rated speed rpm	: 300	tolerance degree : +- 4.0
guide sleeve	}	-
travel mm	: 1.44	aambmal lawam
	• 1• 7-7	control lever
Tolerance mm	: + 0.10	position degree : 94.0
Tolerance mm		
Tolerance mm Rated speed rpm		position degree : 94.0 tolerance degree : +- 4.0
	: + 0.10 : 932	position degree : 94.0
Rated speed rpm	: +- 0.10 : 932 : 6.37	position degree : 94.0 tolerance degree : +- 4.0 RATED SPEED
Rated speed rpm guide sleeve	: + 0.10 : 932	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90
Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 932 : 6.37 : + 0.10	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900
Rated speed rpm guide sleeve travel mm Tolerance mm	: +- 0.10 : 932 : 6.37	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 932 : 6.37 : + 0.10 : 880	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : \$\infty\$00
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 932 : 6.37 : + 0.10 : 880	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : \$200 Rated speed rpm : 950
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00 : + 0.10	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : £300
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : \$00 Rated speed rpm : 950 Tolerance 1/min : + 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00 : + 0.10	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : 950 Rated speed rpm : 950 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00 : + 0.10 : 433 : 4.94	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : 200 Rated speed rpm : 950 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: + 0.10 : 932 : 6.37 : + 0.10 : 880 : 6.00 : + 0.10	position degree : 94.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 11.90 Rated speed rpm : 900 Tolerance 1/min : + 5 rack travel mm : 950 Rated speed rpm : 950 Tolerance 1/min : + 15 rack travel mm : 0.50

LOW IDLE

control lever

position degree : 74.0 tolerance degree : + 4.0

control lever

position degree : 12.0 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300 rack travel mm : 7.00 : + 0.10 Tolerance mm

rack travel mm : 2.00 Rated speed rpm : 415 Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 9.40

TORQUE CONTROL

Rated speed rpm : 850 12.90 rack travel mm : Tolerance mm : + 0.05

Rated speed rpm : 650 rack travel mm : 12.90 Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 220

Check

speed 1/min :> 80 Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 650 Del. quantity

cm3/1000 strokes : 212.0 cm3/1000 strokes : \leftarrow 3.0 Check tolerance

cm3/1000s. : +- 6.0

BREAKAWAY

Rack travel in mm : 11.90
Rated speed rpm : 900
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity

cm3/1000 strokes : 200.0 cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : +- 24.0

LOW IDLE

Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 6 cm3/1000 strokes : +-24.0 3.0 Check tolerance : +- 6.0 cm3/1000s. Spreed cm3/1000 strokes : 7.0 Check tolerance : 11.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P12OA32ORS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

Governer no. : 0 421 815 357

Cust. part No. : 1280160

Customer—spec. information
Customer : DAF
Motor : WS 268 M
Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160
Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : \leftarrow 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 25

cm3/1000 strokes : 250.0

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cm3/1000 strokes : + 1.0 +	guide sleeve travel mm : 3.79
Check tolerance cm3/1000s. : + 4.0	Toterance mm : + 0.25
Spreed cm3/1000 strokes : 5.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50
Check tolerance cm3/1000S. : 9.0	Tolerance mm : +- 0.50
Rated speed rpm : 275	GUIDE SLEEVE POSITION Rated speed rpm : 1130
Rack travel in mm: 4.80 Tolerance mm: + 0.10 Del. quantity	Rack travel in mm : 12.60 Tolerance mm : + 1.30
cm3/1000 strokes : 17.0 + cm3/1000 strokes : +- 3.0 + Check tolerance +-	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : + 6.0 + 5preed	Rated speed rpm : 980 Aneroid pressure
cm3/1000 strokes : 8.0 + Check tolerance cm3/1000s. : 12.0 + cm3/1000s.	hPa : - Del. quantity cm3/1000 strokes : 250.0 cm3/1000 strokes : + 1.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : 9.0
Rated speed rpm : 275 guide sleeve travel mm : 2.14	CONTROL LEVER
Tolerance mm : + 0.15	control lever
Rated speed rpm : 1045 + guide sleeve + travel mm : 9.82 +	position degree : 120.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 689 + guide sleeve +	rack travel mm : 12.55 Rated speed rpm : 1042
travel mm : 6.43	Tolerance 1/min : +- 5
Tolerance mm : + 0.25 Rated speed rpm : 284	Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160
Tolerance mm : + 0.25	Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15 rack travel mm : 0.70
Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334 guide sleeve	Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15
Tolerance mm : + 0.25 Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25 Rated speed rpm : 334	Tolerance 1/min : +- 5 rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : +- 15 rack travel mm : 0.70 Tolerance mm : +- 0.70

		+ rack travel mm : 12.25
control lever		+ Tolerance mm : + 0.05
position degree	: 76.0	
tolerance degree	: +- 4.0	Pressure hPa : 360
		+ rack travel mm : 9.80
Testing:		Pressure hPa : 360 rack travel mm : 9.80 Tolerance mm : + 0.10
		+
Rated speed rpm	: 275	+
rack travel mm	: 4.80	+
rack travel mm Tolerance mm	: +- 0.10	
		+ FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00	+
Rated speed rpm	: 370	+ Aneroid pressure
Tolerance 1/min	: +- 20	+ hPa : -
5.4 1 5 5 1	435	Rated speed rpm : 750
Rated speed rpm	: 173	Del. quantity cm3/1000 strokes : 268.0
CRT mm min.	. > 7.50	+ cm3/1000 strokes : 208.0 + cm3/1000 strokes : +- 2.0
CRI mm min.	: > 7.30	
TORQUE CONTROL	· -· -	
LOWARE COLLINGE		- cm3/1000 strokes : 8.0
Rated speed rpm	: 980	Check tolerance
rack travel mm	: 13.55	+ cm3/1000s. : 12.0
Tolerance mm	: +- 0.05	
		Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: 750	+ hPa : -
rack travel mm	: 13.25	Rated speed rpm : 600
Tolerance mm	: ← 0.05	Del. quantity cm3/1000 strokes : 154.0
		+ cm3/1000 strokes : 154.0
Rated speed rpm	: 600	+ cm3/1000 strokes : $+$ 1.0
rack travel mm	: 12.50	Check tolerance
Tolerance mm	: ← 0.10	+ cm3/1000s. : + 4.0
		†
Rated speed rpm rack travel mm Tolerance mm	: 500	DDEALANAN
rack travel mm	: 12.00	BREAKAWAY
loterance mm	: +- 0.10	†
		Rack travel in mm: 12.55
ANEROID/ALTITUDE		Rated speed rpm : 1042
COMPENSATOR TEST		Tolerance 1/min : + 5
		1
		+
SETTING		+
		+
Rated speed rpm	: 980	+
Pressure hPa	: 1500	
rack travel mm	: 13.55	+ LOW IDLE
Tolerance mm	: 0.05	†
A4		Rated speed rpm : 275
MEASUREMENT		Del. quantity
Danas 45-		- cm3/1000 strokes : 17.0
Pressure hPa	. 000	+ cm3/1000 strokes : +- 3.0
Rated speed rpm	: 980 : 8.60	+ Check tolerance + cm3/1000s. : +- 6.0
rack travel mm Tolerance mm	: 0.00 : +- 0.10	+ Spreed
TOTE ALICE III	, - 0.10	- cm3/1000 strokes : 8.0
Rated speed rpm	: 980	Check tolerance
nateu specu (pill	. /00	cm3/1000s. : 12.0
Pressure hPa	: 720	- 1000
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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 03.12.96 : ISO 4113

Combination No. : 0 402 646 671

Injection pump

Pump designation : PE6P120A320RS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1297K

Governer no. : 0 421 815 524

Cust. part No. : 1316184/1

Customer-spec. information Customer : DAF

: PF 205 M Motor : 205.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 000

1.5 Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : ← 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 4.85 : ← 0.05 Prestroke mm

Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance "NW

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance 'NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm : 12.10 Tolerance mm : + 0.05

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	+	Tolerance mm : +- 0.50
Del. quantity		Total difection
cm3/1000 strokes	: 207.0	GUIDE SLEEVE POSITION
cm3/1000 strokes	: + 1.0	Rated speed rpm : 1329
Check tolerance cm3/1000s.	: + 4.0	Rack travel in mm : 11.10 Tolerance mm : + 2.70
Spreed	5.0	roter ditte imi
cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1130 Aneroid pressure
Rated speed rpm	: 275	hPa : 1500 Del. quantity
	+	cm3/1000 strokes : 207.0
Rack travel in m		cm3/1000 strokes : $+-$ 1.0
Tolerance mm	: ← 0.10	Check tolerance
Del. quantity	+	cm3/1000s. : +- 4.0
cm3/1000 strokes		Spreed
cm3/1000 strokes	: + 3.0 +	cm3/1000 strokes : 5.0
Check tolerance	+	Check tolerance
cm3/1000s. Spreed	: + 6.0	cm3/1000s. : 9.0
cm3/1000 strokes	: 8.0 +	
Check tolerance	+	
cm3/1000s.	: 12.0	CONTROL LEVER
	+	control lever
(B) SETTING OF IN	NJECTION PUMP +	position degree : 118.0
WITH GOVERNOR	+	tolerance degree : + 4.0
	+	
	+	RATED SPEED
GUIDE SLEEVE TRAV	/EL +	
	+	rack travel mm : 11.10
Rated speed rpm	: 275 +	Rated speed rpm : 1195
guide sleeve	+	Tolerance 1/min : +- 5
travel mm	: 1.71	
Tolerance mm	: + 0.20 +	rack travel mm : 4.00
	+	Rated speed rpm : 1300
Rated speed rpm guide sleeve	: 1206	Tolerance 1/min : +- 15
travel mm	: 10.12	rack travel mm : 0.70
Tolerance mm	: ← 0.15	Tolerance mm : +- 0.70 Rated speed rpm : 1400
Rated speed rpm guide sleeve	: 813	·
travel mm	: 6.81	
Tolerance mm	: ← 0.25	LOW IDLE
Rated speed rpm guide sleeve	: 450	control lever
travel mm	: 3.85	position degree : 71.0
Tolerance mm	· 5.52	
	: + 0.25	tolerance degree : +- 4.0
Rated speed rpm guide sleeve		tolerance degree : +- 4.0 Testing:

rack travel mm	: 4.90
Tolerance mm	: ← 0.10
Rated speed rpm	: 175
CRT mm min.	: > 7.50
Rated speed rpm	: 350
TORQUE CONTROL	
Rated speed rpm	: 1130
rack travel mm	: 12.10
Tolerance mm	: ← 0.05
Rated speed rpm	: 1000
rack travel mm	: 12.15
Tolerance mm	: +- 0.10
Rated speed rpm	: 850
rack travel mm	: 12.35
Tolerance mm	: +- 0.10
Rated speed rpm	: 800
rack travel mm	: 12.25
Tolerance mm	: + 0.10
Rated speed rpm	: 650
rack travel mm	: 11.50
Tolerance mm	: + 0.10
Rated speed rpm	: 500
rack travel mm	: 10.85
Tolerance mm	: + 0.10
Rated speed rpm	: 1150
rack travel mm	: 12.10
Tolerance mm	: +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 875
Pressure hPa	: 1500
rack travel mm	: 12.35
Tolerance mm	: ← 0.10
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm	: - : 875 : 8.00 : + 0.10

Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 420 : 11.35 : + 0.05 : 150 : 9.20 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm Del. quantity	: 1500 : 850
cm3/1000 strokes cm3/1000 strokes	: 231.0 : + 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Spreed cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 600 : 138.0 : + 1.0 : + 4.0 : 8.0 : 12.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1195
LOW IDLE	
Rated speed rpm	: 275
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 16.0 : + 3.0

Rated speed rpm : 875

Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03,12,96 Edition Edition : 03.12.96 Test oil : ISO 4113

Combination No. : 0 402 646 672

Injection pump

Pump designation : PE6P12OA32ORS7421 EP type number : 0 412 626 956

Governor

Governer design. : RQV275...1150PA1298K

Governer no. : 0 421 815 525

Cust. part No. : 1316185/1

Customer—spec. information Customer : DAF : PF 183 M Motor : 183.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : ണ

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 : **←** 0.30 Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.10

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1130

Rack travel in mm: 10.80

Tolerance mm : \leftarrow 0.10

Del. quantity	
cm3/1000 strokes	: 184.0
cm3/1000 strokes	: + 1.0
CID/ 1000 SCIORES	• • • • • • • • • • • • • • • • • • • •
Charle Aslanana	
Check tolerance	
cm3/1000s.	: +- 4.0
Spreed	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000s.	: 9.0
CHIS7 10000:	. ,.0
Dated speed non	: 275
Rated speed rpm	: 275
Rack travel in mm	
Tolerance mm	: +- 0.10
Del. quantity	
cm3/1000 strokes	: 16.0
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
	: +- 0.0
Spreed	2.2
cm3/1000 strokes	: 8.0
	. 0.0
Check tolerance	
Check tolerance cm3/1000s. (B) SETTING OF INWITH GOVERNOR	: 12.0
cm3/1000s. (B) SETTING OF IN	: 12.0
cm3/1000s. (B) SETTING OF IN	: 12.0 JECTION PUMP
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAV	: 12.0 JECTION PUMP EL
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE	: 12.0 JECTION PUMP EL
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275
(B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm	: 12.0 JECTION PUMP EL : 275 : 1.71
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 12.0 JECTION PUMP EL : 275 : 1.71
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Steed speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15
cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Steed speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVERSE	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm Rated speed rpm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450 : 3.85
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 1200 : 40.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450 : 3.85 : + 0.25
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVE Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 10.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450 : 3.85
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVER Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 1200 : 40.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450 : 3.85 : + 0.25 : 1480
Cm3/1000s. (B) SETTING OF INWITH GOVERNOR GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 12.0 JECTION PUMP EL : 275 : 1.71 : + 0.20 : 1200 : 1200 : 40.06 : + 0.15 : 811 : 6.79 : + 0.25 : 450 : 3.85 : + 0.25

Tolerance mm	: ← 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1343
Rack travel in mm Tolerance mm	: 9.80 : +- 2.70
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 1130
Aneroid pressure hPa	: 1500
Del. quantity cm3/1000 strokes	: 184.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 117.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 9.80 : 1190 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1285 : ← 15
rack travel mm Tolerance mm Rated speed rpm	: 0.70 : +- 0.70 : 1450
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : ← 4.0
Testing:	
Rated speed rpm	: 275

rack travel mm : 4.90 Tolerance mm : + 0.10 Rated speed rpm : 175 CRT mm min. : > 7.50Rated speed rpm : 325 TORQUE CONTROL Rated speed rpm : 1130 rack travel mm : 10.80 Tolerance mm : + 0.10 Rated speed rpm : 1000 rack travel mm : 10.90 Tolerance mm : $\leftarrow 0.10$ Rated speed rpm : 850 rack travel mm : 11.05 Tolerance mm : + 0.05Rated speed rpm : 800 rack travel mm : 10.90 Tolerance mm : + 0.10 Rated speed rpm : 650 rack travel mm : 10.10 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 9.35 Tolerance mm : + 0.10 Rated speed rpm : 1150 rack travel mm : 10.80 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 875
Pressure hPa : 1500
rack travel mm : 11.10
Tolerance mm : + 0.10 MEASUREMENT Pressure hPa : Rated speed rpm : 875
rack travel mm : 8.00
Tolerance mm : + 0.10

Pressure hPa : 350 rack travel mm : 10.20 Tolerance mm : + 0.05 Pressure hPa : 130 rack travel mm : 8.40 Tolerance mm : + 0.10 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1500 Rated speed rpm : 850 Del. quantity cm3/1000 strokes : 206.0 cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : \leftarrow 5.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 138.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 BREAKAWAY

Rack travel in mm: 9.80
Rated speed rpm: 1190
Tolerance 1/min: +- 5

LOW IDLE

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 16.0
cm3/1000 strokes : + 3.0

Rated speed rpm : 875

Check tolerance cm3/1000s. : + 6.0

Spreed

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.12.96 Test oil : ISO 4113

Combination No. : 0 402 648 780

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

Governer no. : 0 421 815 548

Cust. part No. : 988 04 47

Customer-spec. information
Customer : LIEBHERR
Motor : D 9408 TI-EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.65 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

	+	
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	+	•
Rated speed rpm	: 350	Rated speed rpm : 1050 Aneroid pressure
	1	hPa : 1600
Rack travel in mm		Del. quantity
Tolerance mm Del. quantity	: + 0.10	cm3/1000 strokes : 295.0 cm3/1000 strokes : +- 1.0
cm3/1000 strokes		Check tolerance
cm3/1000 strokes Check tolerance	: +- 3.0	cm3/1000s. : +- 4.0 Spreed
cm3/1000s.	: +- 6.0 I	cm3/1000 strokes : 5.0
Spreed	+	Check tolerance
cm3/1000 strokes Check tolerance	: 6.0	cm3/1000s. : 9.0
cm3/1000s.	: 10.0	
	†	CONTROL LEVER
(B) SETTING OF IN	NECTION PUMP	CONTINUE EEVEN
WITH GOVERNOR	+	control lever
		position degree : 119.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAV	/EL +	
Rated speed rpm	: 300	RATED SPEED
guide sleeve	. 300	rack travel mm : 11.65
travel mm	: 1.11	Rated speed rpm : 1120
Tolerance mm	: + 0.20	Tolerance 1/min : + 5
Rated speed rpm	: 1117	rack travel mm : 4.00
guide sleeve travel mm	: 10.27	Rated speed rpm : 1190 Tolerance 1/min : +- 15
Tolerance mm	: + 0.15	Tolerance 1/min : +- 15
	+	rack travel mm : 0.50
Rated speed rpm guide sleeve	: 755	Tolerance mm : +- 0.50 Rated speed rpm : 1255
travel mm	: 6.17	Nacca Speca (piii . 1233
Tolerance mm	: + 0.25 +	
Rated speed rpm	: 480	LOW IDLE
guide sleeve	+	
travel mm Tolerance mm	: 3.75 : + 0.25	control lever
	+	position degree : 71.0
Rated speed rpm	: 1330	tolerance degree : +- 4.0
guide sleeve travel mm	: 13.50	Testing:
Tolerance mm	: + 0.50	-
	‡	Rated speed rpm : 350 rack travel mm : 4.55
GUIDE SLEEVE POST	TION +	Tolerance mm : + 0.10
Rated speed rpm	. 1182	Rated speed rpm : 300
varen sheen Lhu	. 110E	·
Rack travel in mm		CRT man main. $:> 7.10$
Tolerance mm	: +- 1.50 +	Rated speed rpm : 450
	+	

		+ Rated speed rpm : 500
ORQUE CONTROL		+ Del. quantity + cm3/1000 strokes : 276.0
UNAUE CONTRUE		- cm3/1000 strokes : 276.0
d speed rpm	: 1050	+ Check tolerance
travel mm	: 12.65	+ cm3/1000s. : + 6.0
rance mm	: +- 0.05	+
		+ Aneroid pressure
ed speed rpm		+ hPa : 1600
k travel mm		Rated speed rpm : 800
erance mm	: ← 0.10	Del. quantity
	. 900	cm3/1000 strokes : 299.0
ted speed rpm		cm3/1000 strokes : +- 3.0 Check tolerance
ck travel mm lerance mm		
terance mm	; 0.10	$\frac{1}{1}$ cm3/1000s. : $\frac{1}{1}$ 6.0
ed speed rpm	: 950	Aneroid pressure
rk traval mm	: 12.20	+ hPa : -
ck travel mm lerance mm	: + 0.10	+ Rated speed rpm : 500
		+ Del. quantity
ted speed rpm	: 600	+ cm3/1000 strokes : 209.0
ck travel mm		cm3/1000 strokes : +- 1.0
lerance mm	_	+ Check tolerance
	-	+ cm3/1000s. : +- 4.0
 		+ Spreed
ROID/ALTITUDE		+ cm3/1000 strokes : 8.0
PENSATOR TEST		+ Check tolerance
		+ cm3/1000s. : 12.0
		+
ING		+
		+ BREAKAWAY
ed speed rpm	: 1050	†
ssure hPa k travel mm erance mm	: 1600	†
c travel mm	12.65	+ Rack travel in mm: 11.65
erance mm	: +- U.U5	+ Rated speed rpm : 1120
CHECKELT		† Tolerance 1/min : + 5
SUREMENT		Ī
essure hPa	• _	I
EBBUIT IIFA	•	
	• 1050	+ STARTING FUEL DELIVERY
ted speed rpm		STARTING FUEL DELIVERY
ted speed rpm ck travel mm	: 8.35	+
ted speed rpm	: 8.35	+ Rated speed rpm : 100
ed speed rpm k travel mm erance mm	: 8.35 : +- 0.10	Rated speed rpm : 100 rack travel mm : 9.50
ed speed rpm k travel mm erance mm	: 8.35 : +- 0.10	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20
ed speed rpm ck travel mm erance mm	: 8.35 : +- 0.10	Rated speed rpm : 100 rack travel mm : 9.50
ed speed rpm ck travel mm erance mm ed speed rpm essure hPa	: 8.35 : ← 0.10 : 1050	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity
ed speed rpm k travel mm erance mm ed speed rpm ssure hPa k travel mm	: 8.35 : ← 0.10 : 1050 : 1050	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0
ed speed rpm k travel mm erance mm ed speed rpm ssure hPa k travel mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05	Rated speed rpm : 100 - rack travel mm : 9.50 - Tolerance mm : + 0.20 - Del. quantity - cm3/1000 strokes : 150.0 - cm3/1000 strokes : + 10.0
ed speed rpm c travel mm erance mm ed speed rpm ssure hPa c travel mm erance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80	Rated speed rpm : 100 - rack travel mm : 9.50 - Tolerance mm : + 0.20 - Del. quantity - cm3/1000 strokes : 150.0 - cm3/1000 strokes : + 10.0 - Check tolerance
d speed rpm travel mm rance mm d speed rpm sure hPa travel mm rance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance
speed rpm travel mm ance mm speed rpm ure hPa travel mm ance mm ure hPa	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance
ed speed rpm k travel mm erance mm ed speed rpm ssure hPa k travel mm erance mm ssure hPa k travel mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
ed speed rpm k travel mm erance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
ed speed rpm k travel mm erance mm ed speed rpm ssure hPa k travel mm erance mm k travel mm erance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40 : ← 0.10	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 350
ed speed rpm travel mm erance mm ed speed rpm sure hPa travel mm erance mm erance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40 : ← 0.10	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 350 Del. quantity
d speed rpm travel mm rance mm d speed rpm sure hPa travel mm rance mm sure hPa travel mm rance mm	: 8.35 : ← 0.10 : 1050 : 1050 : 11.80 : ← 0.05 : 700 : 9.40 : ← 0.10	Rated speed rpm : 100 rack travel mm : 9.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0 LOW IDLE Rated speed rpm : 350

M17

Check tolerance cm3/1000s. : +- 6.0

Spreed

cm3/1000 strokes : 6.0

Check tolerance

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.12.96 Test oil : ISO 4113

Combination No. : 0 402 648 780A

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -2K

Governer no. : 0 421 815 548

Cust. part No. : 988 04 47

Customer—spec. information Customer : LIEBHERR

Motor : D 9408 TI-EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6 :-3-5-4

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.30

Check

tolerance °NW : + 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.65 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

cm3/1000 strokes : 5.0

Observation and the second		T	
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELTWEE	RY AT FULL LOAD STOP
CIRS7 10003.	, 9.0	I FOLL LOAD DELIVER	RT AT FUEL LUAD STOP
Rated speed rpm	: 350	Rated speed rpm	• 1050
Marca Speca I piii	. 330	+ Aneroid pressure	
		+ hPa	: 1600
Rack travel in mm	: 4.55	Del. quantity	. 1000
Tolerance mm		+ cm3/1000 strokes	· 295 በ
Del. quantity	0.70	+ cm3/1000 strokes	
cm3/1000 strokes	: 15.0	+ Check tolerance	
cm3/1000 strokes		+ cm3/1000s.	: +- 4.0
Check tolerance	3.0	+ Spreed	4.0
cm3/1000s.	: +- 6.0	cm3/1000 strokes	: 5.0
Spreed	0.0	+ Check tolerance	
cm3/1000 strokes	: 6.0	+ cm3/1000s.	: 9.0
Check tolerance	. 0.0	1 00000:	. 7.0
cm3/1000s.	: 10.0	I	
(1107 10003.	. 10.0	I	
		CONTROL LEVER	
(B) SETTING OF IN.	JECTTON PHMP	1 CONTINUE LEVER	
WITH GOVERNOR	20110H 1 0H	control lever	
ATIL GOTCHION		position degree	• 119 በ
		tolerance degree	
GUIDE SLEEVE TRAVE	=1	1 cotter and degree	4.0
SOIDE SEEFAL WAS	- L	RATED SPEED	
Rated speed rpm	: 300	1 MATEU OF EED	
guide sleeve	. 500	rack travel mm	: 11.65
travel mm	: 1.11	Rated speed rpm	
Tolerance mm	: +- 0.20	+ Tolerance 1/min	
roterance min	. +- 0.20	I loterance 1/min	. +-)
Rated speed rpm	: 1117	T rack travel mm	: 4.00
guide sleeve	. !!!!	+ Rated speed rpm	
travel mm	: 10.27	Tolerance 1/min	
	: +- 0.15	T roterance mini	. — 15
Tolerance mm	. — 0.13	T rack travel mm	: 0.50
Dated aroad nam	: 755	+ Tolerance mm	: +- 0.50
Rated speed rpm	: 755		
guide sleeve	. 4 17	+ Rated speed rpm	: 1255
travel mm	: 6.17	T	
Tolerance mm	: ← 0.25	I	
Rated speed rpm	: 480	LOW IDLE	
	: 480	I LOW IDLE	
guide sleeve	: 3.75	I	
travel mm		T control lever	
Tolerance mm	: + 0.25	+ position degree	. 71 0
Dottod opend non	. 1770		
Rated speed rpm	: 1330	tolerance degree	4.0
guide sleeve	. 47 50	Tachina	
travel mm	: 13.50	+ Testing:	
Tolerance mm	: ← 0.50	T Destant amount on	. 750
		+ Rated speed rpm	
CUITAR OF FRUIT SACE	CZONI	+ rack travel mm	: 4.55 : - 0.10
GUIDE SLEEVE POSIT	TOM	+ Tolerance mm	: +- 0.10
Dakad	. 1100	T Dotted arrest re-	. 300
Rated speed rpm	: 1182	+ Rated speed rpm	: 300
On all Annual of the second	. 12.79	T COT	. > 7.10
Rack travel in mm		+ CRT mm min.	: > 7.70
Tolerance mm	: +- 1.50	T	. /50
		+ Rated speed rpm	: 450
		+	

		+ Rated speed rpm : 500
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 276.0 cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm Tolerance mm	• 12 65	- cm3/1000 strokes : + 3.0 - Check tolerance - cm3/1000s. : + 6.0
Rated speed rpm rack travel mm Tolerance mm	: 500 : 10.05	Aneroid pressure hPa : 1600 Rated speed rpm : 800 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.75	cm3/1000 strokes : 299.0 cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
Rated speed rpm rack travel mm Tolerance mm	: 950	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.75	Del. quantity cm3/1000 strokes : 209.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
ANEROID/ALTITUDE		- + Spreed + cm3/1000 strokes : 8.0
COMPENSATOR TEST		+ Check tolerance + cm3/1000s. : 12.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1600 : 12.65	Rack travel in mm: 11.65 Rated speed rpm: 1120 Tolerance 1/min: +- 5
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 8.35	STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm		rack travel mm : 9.50 Tolerance mm : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 1050 : 11.80 : + 0.05	<pre>bel. quantity cm3/1000 strokes : 150.0 cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0</pre>
Pressure hPa rack travel mm Tolerance mm		T CMD/10005. : 14.0
		LOW IDLE
FUEL DELIVERY CHA	RACTERISTICS	Rated speed rpm : 350 Del. quantity
Aneroid pressure hPa	: 1600	+ cm3/1000 strokes : 15.0 + cm3/1000 strokes : + 3.0 +

Check tolerance cm3/1000s. : +- 6.0 Spreed cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28,11,96 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 785

Injection pump

Pump designation : PE8P120A320LS7844 EP type number : 0 412 628 860

Governor

Governer design. : RQV350...1050PA1318

Governer no. : 0 421 814 185

Cust. part No. : 0270746302

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor : 370.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : ← 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 : + 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 : +- 0.50 Tolerance mm

Firing order : 8-7-2-6-3

: - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : +- 0.30

Check

Tolerance

tolerance *NW : +- 0.50

Start of delivery mark

: + 0.10Tolerance

Check

tolerance NW : + 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.30 Tolerance mm: +-0.10

	+	Tolerance mm : + 0.25
Del. quantity cm3/1000 strokes	: 272.0	Rated speed rpm : 1300 guide sleeve travel mm : 11.50
cm3/1000 strokes	: + 1.0	travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: + 4.0	CHINE OF EACH DOCATION
Spreed		GUIDE SLEEVE POSITION
cm3/1000 strokes	: 5.0	Rated speed rpm : 1174
Check tolerance cm3/1000S.	+	Rack travel in mm : 11.00 Tolerance mm : +- 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mo		Rated speed rpm : 1050
Tolerance mm	: + 0.10 +	Aneroid pressure
Del. quantity cm3/1000 strokes	. 10 n İ	hPa : 1800 Del. quantity
cm3/1000 strokes		cm3/1000 strokes : 272.0
Check tolerance		cm3/1000 strokes : +- 1.0
cm3/1000s.	: + 6.0 +	Check tolerance
Spreed	+	cm3/1000s. : + 4.0
cm3/1000 strokes Check tolerance	: 6.0	Spreed cm3/1000 strokes : 5.0
cm3/1000\$.	: 10.0	Check tolerance
	+	cm3/1000s. : 9.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRAV	/EL	control lever
Rated speed rpm	. 350	position degree : 120.0 tolerance degree : +- 4.0
guide sleeve	. 330	toter differ degree 4.0
travel mm		RATED SPEED
Tolerance mm	: + 0.20 +	4/ 70
Rated speed rpm	. 1106	rack travel mm : 14.30 Rated speed rpm : 1095
guide sleeve	. 1100	Tolerance 1/min : +- 5
travel mm	: 8.02	
Tolerance mm	: + 0.15 +	rack travel mm : 4.00
B. A. J	. 200	Rated speed rpm : 1195
Rated speed rpm guide sleeve	: 900	Tolerance 1/min : +- 15
travel mm	: 5.69	rack travel mm : 0.50
Tolerance mm		Tolerance mm : +- 0.50
Rated speed rpm guide sleeve	: 580	Rated speed rpm : 1300
travel mm	: 3.62	
Tolerance mm	: + 0.25	LOW IDLE
Rated speed rpm	: 1204	
guide sleeve	1	control lever

tolerance degree	: +- 4.0	Rated speed rpm : 800	
Testing:		+ Del. quantity + cm3/1000 strokes : 274.0	
		+ cm3/1000 strokes : +- 1.5	
Rated speed rpm	: 350	+ Check tolerance	
rack travel mm Tolerance mm	: 5.00 : +- 0.10	cm3/1000s. : + 4.5	
Rated speed rpm	: 250	Aneroid pressure	
		Rated speed rpm : 500	
CRT mm min.	: > 7.00	<pre>Del. quantity</pre>	
Rated speed rpm	: 450	+ cm3/1000 strokes : +- 1.0	
		Check tolerance	
TORQUE CONTROL			
Rated speed rpm	: 1050	+ BREAKAWAY	
rack travel mm	: 15.30	+	
Tolerance mm	: + 0.10	Rack travel in mm : 14.30	
Rated speed rpm	: 800	+ Rack travel in mm : 14.30 + Rated speed rpm : 1095	
rack travel mm	: 15.30	+ Tolerance 1/min : +- 5	
Tolerance mm	: +- 0.10	‡	
ANEROID/ALTITUDE		STARTING FUEL DELIVERY	
COMPENSATOR TEST		†	
		Rated speed rpm : 100 Del. quantity	
		+ cm3/1000 strokes : 270.0	
MEASUREMENT		+ cm3/1000 strokes : +- 10.0	
December hos	_	f Check tolerance f cm3/1000s. : + 14.0	
Pressure hPa Rated speed rpm	500	† tili3/16003. : += 14.6	
Pressure hPa	: 700	Ţ	
rack travel mm	4.65	<u> </u>	
Tolerance mm	: +- 0.10	+ LOW IDLE	
Pressure hPa	: 180	Rated speed rpm : 350	
rack travel mm	: 0.20	+ Del. quantity + cm3/1000 strokes : 19.0	
Tolerance mm	: ← 0.05	+ cm3/1000 strokes : +- 3.0	
	·····		
START CUT-OUT		+ cm3/1000s. : +- 6.0 + Spreed	
Rated speed rpm	: > 100	- cm3/1000 strokes : 6.0	
Rated speed rpm		+ Check tolerance	
Check		+ cm3/1000s. : 10.0	
speed 1/min	: > 80	+	
Check		+	
speed 1/min	: < 290	‡	
FUEL DELIVERY CHA	RACTERISTICS	End of test specification sheet	
		†	
Aneroid pressure hPa	: 1800	‡	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.12.96 : ISO 4113 Test cil

Combination No. : 0 402 648 9670

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: 0 421 815 361 Governer no.

Cust. part No. : 9275447

Customer-spec. information Customer : LIEBHERR Motor : D 9408 TI-EA3

Power KW : 420.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

2.0 Inlet press. bar : : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +-3.65

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180 : -225-270-315

: +- 0.30 Tolerance

Check

tolerance *NW : **←** 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.65 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 295.0

cm3/1000 strokes : + 1.0

Check tolerance : +- 4.0 cm3/1000s.

Spreed

cm3/1000 strokes : 5.0

<u> </u>	
Check tolerance +	
cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FUL! LOAD STOP
 	
Rated speed rpm : 350 +	Rated speed rpm : 1050
+	Aneroid pressure
+	hPa : -
Rack travel in mm: 4.55	Del. quantity
Tolerance mm : +- 0.10	cm3/1000 strokes : 295.0
Del. quantity	cm3/1000 strokes : +- 1.0
	Check tolerance
cm3/1000 strokes : 15.0	
cm3/1000 strokes : + 3.0 +	cm3/1000s. : +- 4.0
Check tolerance +	Spreed
cm3/1000s, : $+$ 6.0 $+$	cm3/1000 strokes : 5.0
Spreed	Check tolerance
cm3/1000 strokes 6.0	cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. * 10.0	
1	
Ţ	CONTROL LEVER
(D) SETTING OF THURSTON DUMP	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
†	position degree : 120.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL +	
+	RATED SPEED
Rated speed rpm : 300 +	
guide sleeve	rack travel mm : 11.65
travel mm : 1.69	Rated speed rpm : 1120
	Tolerance 1/min : +- 5
Tolerance mm : +- 0.25 +	Toterance Timin : +- 3
†	
Rated speed rpm : 1117 +	rack travel mm : 4.00
guide sleeve +	Rated speed rpm : 1210
travel mm : 10.38 +	Tolerance 1/min : + 15
Tolerance sum : + 0.25 +	
1	rack travel mm : 0.50
Rated speed rpm : 746	Tolerance mm : + 0.50
guide sleeve	Rated speed rpm : 1255
travel mm : 6.20	Mateu Specu i piii . 1255
Tolerance mm : + 0.25 +	
+	LOU TOUR
Rated speed rpm : 353 +	LOW IDLE
guide steeve +	
travel mm : 2.45	
Tolerance mm : + 0.25	control lever
1	position degree : 78.0
Rated speed rpm : 403	tolerance degree : + 4.0
guide sleeve	
travel mm : 3.18	Testing:
	resting.
Tolerance mm : + 0.25 +	200
<u> </u>	Rated speed rpm : 350
Rated speed rpm : 450 +	rack travel mm : 4.55
guide sleeve +	Tolerance mm : +- 0.10
travel mm : 3.66	
Tolerance mm : +- 0.25	Rated speed rpm : 300
Rated speed rpm : 1320	Rated speed rpm : 450
	Nation speed i pill 1 120
guide steeve	
travel mm : 13.50 +	TARALIE CANTERAL
Tolerance mm : + 0.50 +	TORQUE CONTROL

		17140	000 strokes : +-	7.0
Rated speed rpm	: 1050		tolerance	3.0
			000s. : +-	6.0
rack travel mm Tolerance mm	: +- 0.05			0.0
rocci di lec min	• • •••	+ Aperoi	id pressure	
Rated speed rpm	500	+ hPa	i i	_
rack travel mm	: 10.05	· ·	speed rpm :	800
Tolerance mm			quantity	
			000 strokes :	299.0
Rated speed rpm	: 800		000 strokes : +	
rack travel mm	: 11.75		tolerance	
rack travel mm Tolerance mm	: + 0.10	+ cm3/10	000s. : +-	6.0
		+		
Rated speed rpm	: 950		id pressure	
rack travel mm Tolerance mm	: 12.20	+ hPa	•	-
Tolerance mm	: +- 0.10			500
naalaa aa aa aa aa	. (00	† Del. o	quantity 200 strokes :	200 0
Rated speed rpm	: 000			209.0
rack travel mm Tolerance mm	: + 0.10		000 strokes : +- tolerance	1.0
roterance mm	. +- 0.10	+ cm3/10		۸ n
		Spreed		4.0
ANEROID/ALTITUDE			000 strokes :	8.0
COMPENSATOR TEST			tolerance	J.J
COLUMN ELICOTITO IL TECT			000s. :	12.0
		+	,	
SETTING		 		
		+ BREAKA	WAY	
Rated speed rpm	: 1050	+		
	4/88			
Pressure nPa	: 1600	+		
Pressure hPa rack travel mm			ravel in mm :	
Pressure nPa rack travel mm Tolerance mm		Rated	speed rpm : 1	120
rack travel mm Tolerance mm		Rated		
ressure npa rack travel mm Tolerance mm		Rated	speed rpm : 1	120
rack travel mm Tolerance mm MEASUREMENT		Rated	speed rpm : 1	120
rack travel mm Tolerance mm MEASUREMENT Pressure hPa	: 12.65 : + 0.05	Rated Tolera	speed rpm : 1 ance 1/min : +-	120
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: 12.65 : + 0.05 : - : 1050	Rated Tolera	speed rpm : 1	120
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 12.65 : + 0.05 : - : 1050 : 8.35	Rated Tolera Tolera Tolera Tolera	speed rpm : 1 ance 1/min : +	120 5
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: 12.65 : + 0.05 : - : 1050 : 8.35	Rated Tolera Tolera Tolera Rated	speed rpm : 1 ance 1/min : +	120 5
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 1050 : 8.35 : + 0.10	Rated Tolera Tolera Tolera Rated Rated rack t	speed rpm : 1 ance 1/min : + NG FUEL DELIVERY speed rpm : ravel mm :	120 5 100 9.50
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm	: 12.65 : + 0.05 : - 1050 : 8.35 : + 0.10	Rated Tolera STARTI Rated rack t Tolera	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : +	120 5 100 9.50
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 12.65 : + 0.05 : - 1050 : 8.35 : + 0.10 : 1050 : 1050	Rated Tolera STARTI Rated rack t Tolera	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : +- nuantity	120 5 100 9.50 0.20
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 12.65 : + 0.05 : - 1050 : 8.35 : + 0.10 : 1050 : 1050 : 11.80	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : unce mm : + unantity 00 strokes : +	120 5 100 9.50 0.20
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 12.65 : + 0.05 :	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : + nuantity 00 strokes : tolerance	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : unce mm : + unantity 00 strokes : +	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 1050 : 8.35 : + 0.10 : 1050 : 1050 : 11.80 : + 0.05 : 700	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : + nuantity 00 strokes : tolerance	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : + nuantity 00 strokes : tolerance	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : nce mm : + nuantity 00 strokes : tolerance	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ruce mm : + puantity HOO strokes : tolerance HOOS. : +	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40	Rated Tolera STARTI Rated rack t Tolera cm3/10 cm3/10 Check	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ruce mm : + puantity HOO strokes : tolerance HOOS. : +	120 5 100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : - 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ruce mm : + puantity 100 strokes : tolerance 100S. : +	100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : + 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40 : + 0.10	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 LOW ID	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : + puantity 100 strokes : + 100	100 9.50 0.20 150.0 10.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : + 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40 : + 0.10	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 LOW ID Rated Del. q	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ruantity MOO strokes : tolerance MOOS. : +	100 9.50 0.20 150.0 10.0 14.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.65 : + 0.05 : + 0.05 : 1050 : 1050 : 1050 : 11.80 : + 0.05 : 700 : 9.40 : + 0.10	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 Rated Del. q cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ravel mm : ravel mm : roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : + roce mm : roce mm : roce mos : + roce mos	100 9.50 0.20 150.0 10.0 14.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA	: 12.65 : + 0.05 :	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 Rated Del. q cm3/10 cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : + puantity 00 strokes : + tolerance 00s. : + LE speed rpm : quantity 00 strokes : + tolerance 00s. : + DELE speed rpm : quantity 00 strokes : + puantity	100 9.50 0.20 150.0 10.0 14.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA	: 12.65 : + 0.05 :	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 Rated Del. q cm3/10 Cireck	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : ravel mm : ravel mm : ravel mm : ravel rolerance HOO strokes : rolerance HOOS. : + Speed rpm : ruantity HOOS. : + Speed rpm : ruantity HOOS strokes : ruantity HOOS strokes : ruantity HOOS strokes : ruantity HOOS strokes : ruantity HOOS strokes : ruantity HOOS strokes : ruantity HOOS strokes : ruantity	100 9.50 0.20 150.0 10.0 14.0 350 15.0 3.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm	: 12.65 : + 0.05 : 1050 : 8.35 : + 0.10 : 1050 : 11.80 : + 0.05 : 700 : 9.40 : + 0.10 ARACTERISTICS	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 Rated Del. q cm3/10 Cineck cm3/10	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : + ravel mm :	100 9.50 0.20 150.0 10.0 14.0 350 15.0 3.0
rack travel mm Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm FUEL DELIVERY CHA	: 12.65 : + 0.05 : 1050 : 8.35 : + 0.10 : 1050 : 11.80 : + 0.05 : 700 : 9.40 : + 0.10	Rated Tolera STARTI Rated rack t Tolera Del. q cm3/10 cm3/10 Check cm3/10 Cineck cm3/10 Spreed	speed rpm : 1 ING FUEL DELIVERY speed rpm : ravel mm : + ravel mm :	120 5 100 9.50 0.20 150.0 10.0 14.0 350 15.0 3.0 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.11.96 : ISO 4113

Combination No. 22 : 0 402 698 033

Injection pump

EP type number : 0 412 628 004

Pump designation : PE8H120/320LS15

Governor

Governer design. : RE36

Governer no.

: 0 421 890 369

Cust. part No.

: 0250745602

Customer-spec. information Customer

Motor

: MB-NFZ : OM 442 LA

TEST BENCH REQUIREMENTS

Inlet line

: 3.2 ELAB

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 082

Inlet press. bar :

3.0

Tolerance bar

: → 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: ← 1.5

Test lines

: 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm :

600

REMARKS

Pump-specific values in Section (B)

must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

7.00 Prestroke mm

: + 0.05Tolerance mm

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 : +- 0.50

Tolerance mm

: 8-7-2-6-3 Firing order

? - 5- 4- 1

: 0-45-90-135-180 Phasing

: -225-270-315

: +- 0.50 Tolerance

Check

: + 0.75tolerance *NW

Start of delivery mark

: +- 0.50Tolerance

Check

tolerance *NW : +- 0.75

Barrel no.

: 8

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: 0 Setting point (P, R and H pump) Uact V : 3.100 13.00 CRT mm : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V 6.15 CRT mm Tolerance mm : +/- 0.25 Check : +/- 0.30tolerance mm Setting point (M pump) 3.100 Uact V 12.50 CRT mm : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (M pump) 1.700 Uact V CRT mm 5.50 : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Stop position

: Value with

: +/- 0.25

: +/- 0.35

deenergised adjusting magnet

0.75

and control rod in stop position.

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: Amplitude V Tolerance V : +/- 0.6 Check : +/- 1.20 tolerance V Engine speed min-1: 600 Difference Amplitude to : max.1.4 Amplitude V (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm Uact V Stroke mm Del. quantity

60

1.4

750 2.800 Prestroke solenoid 7.40 cm3/1000 strokes : 342.0 cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 6.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000S.9.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm 950 Uact V 2.900 Prestroke solenoid Stroke mm 8.00 Del. quantity cm3/1000 strokes : cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 550 Rated speed rpm 2.700 Uact V

Prestroke solenoid 9.50 Stroke mm Del. quantity 349.0 cm3/1000 strokes : cm3/1000 strokes : +-

Uact V

CRT mm

Check

Tolerance mm

tolerance mm

cm3/1000s. Rated speed rpm Uact V Prestroke solenoi Stroke mm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: + 6.0 : 630 : 2.000 : 5.30 : 203.0 : + 2.5 : + 5.0
TEST POINT L1 Rated speed rpm	: 300
Uact V Tolerance Volt Check tolerance	: 1.500 : +- 0.060
Volt Prestroke solenoi Stroke mm	: +- 0.060 d : 8.00
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 31.0 : + 3.0
Spreed cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
STARTING FUEL DEL	IVERY
Rated speed rpm Jact V	: 100 : 1.900
Prestroke solenoi Stroke mm Del. quantity	: 10.00
cm3/1000 strokes cm3/1000 strokes	: 108.0 : + 10.0
End of test speci	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.12.96

Combination No. : 0 402 746 601

Injection pump

Pump designation : PES6P120A720RS7389

EP type number : 0 412 726 944

Governor

Governer design. : RQ275/1050PA1021-4

Governer no. : 0 421 801 795

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

: 8460.41E.711 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance *C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 145 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.15 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

tolerance *NW : + 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 10.95

Tolerance mm : \leftarrow 0.05

NO5

Del. quantity	+
cm3/1000 strokes : 166.0	+ rack
-7/4000 -tli 1 4 0	_ + Rated
cm3/1000 strokes : + 1.0	† Toler
Check tolerance	- + rack
cm3/1000s. : + 4.0	+ Rated
	+ Toler
Spreed	+
cm3/1000 strokes : 5.0	+ rack
	+ Toler
Check tolerance	Rated
cm3/1000s. : 9.0	+
	+
Rated speed rpm : 275	+
	+ LOW I
Paul Americal Science 1 (0)	†
Rack travel in mm: 4.60	†
Tolerance mm : + 0.10	contr
Del. quantity	+ posit
cm3/1000 strokes : 23.0	+ toler
cm3/1000 strokes : + 3.0	†
Check tolerance	+ Testi
cm3/1000s. : +- 6.0	† 5
Spreed	Rated
cm3/1000 strokes : 8.0	+ rack
Check tolerance cm3/1000s : 12.0	† Toler
cm3/1000s. : 12.0	†
	+ rack + Rated
(B) SETTING OF INJECTION PUMP	+ Toler
WITH GOVERNOR	I
WITH GOVENION	Rated
	+
GUIDE SLEEVE POSITION	+ CRT m
GOIDE SEEEAE LOSILLOIA	I
Rated speed rpm : 600	
· ·	+ TORQU
	+
Rack travel in mm: 20.00	Rated
Rack travel in mm : 20.00 Tolerance mm : +- 0.80	+ Rated + rack
	+ Rated + rack
Tolerance mm : + 0.80	Rated + rack + Toler
	Rated + rack + Toler + Rated
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated rack Toler Rated rack
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050	Rated rack Rated rack rack
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure	Rated rack Rated rack rack
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900	Rated rack Rated rack rack Toler
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity	Rated rack Toler Rated rack Toler ANERO
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0	Rated rack Toler Rated rack Toler ANERO
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0	Rated rack Toler Rated rack Toler ANERO
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance	Rated rack Toler ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	Rated rack Toler ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	Rated rack Toler ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0	Rated rack Toler Rated ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance	Rated rack Toler Rated ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0	Rated rack Toler Rated rack Toler ANERO COMPE
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance	Rated rack Toler Rated rack Toler SETTI
Tolerance mm : + 0.80 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 166.0 cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance	TORQU Rated rack Toler Rated rack Toler ANERO COMPE

rack travel mm Rated speed rpm Tolerance 1/min	: 9.90 : 1103 : ← 8
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1165 : ← 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 4.60 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 356 : +- 20
Rated speed rpm	: 175
CRT mm min.	: > 6.10
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 10.95 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.00 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 900 : 10.95 : + 0.05
MEASUREMENT	

rack travel mm Tolerance mm	: 600 : 9.00 : ← 0.10
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 220 : 9.30 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 350 : 10.45 : + 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 195
Check speed 1/min	: > 80
Check speed 1/min	: < 215
Aneroid pressure hPa Rated speed rpm	: 900 : 600
Del. quantity cm3/1000 strokes cm3/1000 strokes	: 174.5 : + 3.0
cm3/1000 strokes	
cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 3.0 : + 6.0 : - : 600 : 119.0
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance	: + 3.0 : + 6.0 : - 6.0 : 600 : 119.0 : + 1.0

Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 170.0 : + 15.0 : + 19.0
LOW IDLE	
Rated speed rpm Del. quantity	: 275
cm3/1000 strokes	: 23.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and edjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29.11.96 : Iso 4113

Combination No. : 0 402 746 883

Injection pump

Pump designation : PES6P110A320RS7198 EP type number : 0 412 716 802

Governor

Governer design. : RQV275...1250PA942K

Governer no. : 0 421 815 234

Cust. part No. : CCEP 5097A

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06.02.26 L Motor

Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

tempo. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.65 : +- 0.50 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: **←** 0.30 Tolerance

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 14.65

Tolerance mm : \leftarrow 0.05

NO8

	-
50	
58.0	
1.0	
3.5	
4.0	
7.5	
75	
19.5 2.5 5.0	
4.5 7.5	
PUMP	<u>.</u>
35	
3.60 1.30	
3.60 1.30	ГОР
	LL LOAD ST 50 00 58.0 1.0

CONTROL LEVER	
control lever position degree tolerance degree	: 114.0 : ← 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: −1.00 : 1320 : ← 5
rack travel mm Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: -14.15 : +- 0.55 : 1600
LOW IDLE	
control lever position degree tolerance degree	: 62.0 : + 4.0
Testing:	
Rated speed rpm	: 200
CRT mm max.	: < -8.90
Rated speed rpm	: 415
TORQUE CONTROL	, , _ , _ , _ , _ , _ , _ , _ , _
Rated speed rpm	: 1250
Rated speed rpm rack travel mm Tolerance mm	: 750 : −0.80 : ← 0.10
Rated speed rpm rack travel mm	: 750 : -5.60
Tolerance mm	: ← 0.10
Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: + 0.10 : 750 : -8.00 : + 0.10

		+ cm3/1000 strokes : 8.0
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 750
SETTING		Del. quantity cm3/1000 strokes : 39.0 cm3/1000 strokes : +- 5.0
Rated speed rpm Pressure hPa		Check tolerance cm3/1000s. : + 8.0 Spreed
MEASUREMENT		cm3/1000 strokes : 8.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 68.0
Rated speed rpm	: 1250	cm3/1000 strokes : + 1.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm	: 220 : −2.60 : ← 0.20	cm3/1000s. : + 3.5
Pressure hPa	: 360	BREAKAWAY
rack travel mm Tolerance mm	: -1.75 : +- 0.05	Rack travel in mm: -1.00 Rated speed rpm: 1320 Tolerance 1/min: +- 5
START CUT-OUT		Toterance maint . +- y
Rated speed rpm Rated speed rpm		STARTING FUEL DELIVERY
Check speed 1/min Check speed 1/min	: > 130 : < 220	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 100.0 cm3/1000 strokes : + 15.0
		+ Check tolerance
FUEL DELIVERY CHA	RACTERISTICS	· ·
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 750	Check tolerance cm3/1000s. : + 19.0 LOW IDLE
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes	: 1000 : 750 : 127.0	Check tolerance cm3/1000s. : + 19.0 LOW IDLE
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000 : 750 : 127.0	Check tolerance cm3/1000s. : + 19.0 LOW IDLE Rated speed rpm : 275 Del. quantity
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 1000 : 750 : 127.0 : ← 2.0 : ← 5.0	Check tolerance cm3/1000s. : + 19.0 LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 19.5 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 Spreed
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 750 : 127.0 : + 2.0 : + 5.0 : - 750	Check tolerance cm3/1000s. : + 19.0 LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 19.5 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 4.5 Check tolerance
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1000 : 750 : 127.0 : + 2.0 : + 5.0 :	Check tolerance cm3/1000s. : + 19.0 LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 19.5 cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s. : + 5.0 Spreed cm3/1000 strokes : 4.5

N10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.11.96 Test oil : ISO 4113

Combination No. : 0 402 746 894

Injection pump

Pump designation : PES6P110A320RS7208 EP type number : 0 412 716 803

Governor

Governer design. : RQV275...1175PA942

: -1K

Governer no. : 0 421 815 244

Cust. part No. : CCEP 5100A

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIDRO60226 M

Power KW : 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 13.50Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm : 14.05 Tolerance mm : +- 0.05

			Tolerance mm	: +- 0.25
BASIC SETTING		<u> </u>	Rated speed rpm guide sleeve	: 440
Rated speed rpm	: 1175	+	travel mm Tolerance mm	: 3.01 : +- 0.25
Del. quantity cm3/1000 strokes	: 171.0	+	Rated speed rpm	
cm3/1000 strokes	: + 1.0	<u>†</u>	guide sleeve travel mm Tolerance mm	: 3.92 : + 0.25
Check tolerance cm3/1000s.	: + 3.5	[Rated speed rpm	
Spreed cm3/1000 strokes	: 4.0	‡	guide sleeve travel mm Tolerance mm	: 13.50 : ← 0.50
Check tolerance		‡		
cm3/1000s.		‡	GUIDE SLEEVE POSI	
Rated speed rpm	: 275	‡	Rated speed rpm	: 1400
		+	Rack travel in mm	
Rack travel in mo		+	Tolerance mm	: +- 1.30
Tolerance mm	: ← 0.20	+		
Del. quantity	24.0	+		
cm3/1000 strokes		†	FULL LOAD DELIVER	Y AT FULL LOAD STOP
cm3/1000 strokes		†		4475
Check tolerance		†	Rated speed rpm	
cm3/1000s.	: 5.0	†	Aneroid pressure	
Spreed	, -	+	hPa	: 1000
cm3/1000 strokes		†	Del. quantity	474 0
Check tolerance		†	cm3/1000 strokes	
cm3/1000S.	: 7.5	†	cm3/1000 strokes	: +- 7.0
		†	Check tolerance	7 5
(n) n		†	cm3/1000s.	: +- 3.5
(B) SETTING OF IN	MECITON DOWN	†	Spreed	
WITH GOVERNOR		†	cm3/1000 strokes	: 4.0
		Ţ	Check tolerance cm3/1000s.	: 7.5
GUIDE SLEEVE TRAV	/CI	I	CMS/ TUSUS.	: 7.5
GOIDE STEENE IKAN	/CL	I		
Rated speed rpm	: 275	I		
guide sleeve		1	CONTROL LEVER	
travel mm	: 1.00	1		
Tolerance mm	: + 0.25	1	control lever	
. 0 t 0 t 4		1	position degree	: 114.0
Rated speed rpm	: 1256	1	tolerance degree	
guide steeve		1		
travel mm	: 9.17	1	RATED SPEED	
Tolerance mm	: + 0.25	1		
	. =	1	rack travel mm	: -1.00
Rated speed rpm	: 888	1	Rated speed rpm	: 1245
guide sleeve		1	Tolerance 1/min	: + 5
travel mm	: 6.57	1	· · · · · · · · · · · · · · · · · · ·	· •
Tolerance mm	· + 0.25	1	rack travel mm	: -10.05
, - , - , - , - , - , - , - , - , - , -		1	Rated speed rpm	: 1430
Rated speed rpm	: 390	1	Tolerance 1/min	: +- 15
guide sleeve	· •••	1		· -
travel mm	: 2.39	1	rack travel mm	: -13.55
T. WITE HAM		ľ	or with their	· - · · · · · · · · · · · · · · · · · ·

Tolerance mm Rated speed rpm	: + 0.55 · 1400	+ Pressure hPa : 240 + rack travel mm : -2.70
rated speed (pill	. 1000	Tolerance mm : + 0.20
	· · · · · · · · · · · · · · · · · · ·	Pressure hPa : 520
LOW IDLE		rack travel mm : -1.45
		Tolerance mm : +- 0.05
control lever	. (0.0	CTADE CUT OUT
position degree tolerance degree	: 6U,U	+ START CUT-OUT
coterance degree	. 1 4.0	Rated speed rpm : > 150
Testing:		Rated speed rpm : < 200
Rated speed rpm	: 275	Check
rack travel mm Tolerance mm	: -8.80	+ speed 1/min : > 130
Tolerance mm	: +- 0.20	+ Check
Rated speed rpm		+ speed 1/min : < 220
, ,	: < -8.20	FUEL DELIVERY CHARACTERISTICS
CRT mm max.		+
Rated speed rpm	: 415	+ Aneroid pressure
		+ hPa : 1000
TODOUE CONTROL		Rated speed rpm : 700
FORQUE CONTROL		+ Del. quantity + cm3/1000 strokes : 151.0
Rated speed rpm	• 1175	cm3/1000 strokes : + 3.0
raren sheen (hill	. 1112	
Rated speed rom	: 700	+ Check tolerance + cm3/1000S. : +- 6.0
Rated speed rpm rack travel mm	: -0.70	+
rack travel mm Tolerance mm	: + 0.10	Aneroid pressure
		+ hPa : −
Rated speed rpm	: 700	+ Rated speed rpm : 700
rack travel mm	: − 6.0 5	+ Del. quantity
Folerance mm	; ← 0.10	+ cm3/1000 strokes : 55.0
		+ cm3/1000 strokes : + 5.0
Rated speed rpm	: 800	+ Check tolerance
ack travel mm	: -0.35	+ cm3/1000s. : + 8.0
Tolerance mm	: + 0.15	+ Spreed + cm3/1000 strokes : 8.0
		T CHUTTOUU SETURES : 0.0
NEROID/ALTITUDE		Aneroid pressure
COMPENSATOR TEST		∔ hPa : -
and the second s		Rated speed rpm : 500
		+ Del. quantity
SETTING		- cm3/1000 strokes : 75.0
	4 4	+ cm3/1000 strokes : +- 1.0
Rated speed rpm		Check tolerance
Pressure hPa	: 1000	+ cm3/1000s. : +- 3.5
REASUREMENT		PREAVALIAN
December 505		BREAKAWAY
ressure hPa	: – : 1175	I
tated speed rpm Pack travel mm		Rack travel in mm: -1.00
olerance mm	: + 0.20	Rated speed rpm : 1245
Occidince mil		Tolerance 1/min : + 5
		The second comment of the second comment of

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes : 105.0 cm3/1000 strokes : + 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm : 275

Del. quantity

cm3/1000 strokes : 21.0 cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s.: +-5.0

Spreed

4.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 30.08.95 : ISO 4113

Combination No. : 0 402 795 203

Injection pump

Pump designation : PES5H120/720/3LS1004

EP type number

: 0 412 725 203

Governor

Governer design. : RE33

Governer no.

: 0 421 890 364

Cust. part No. : 51.111103-7476

Customer-spec. information

Customer : MAN Motor

: D 2865 LF 09

Power KW

: 250.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 073

Inlet press. bar :

3.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

N16

x inside diameter: 3.0

x length mm :

600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

7.65 Prestroke mm

: +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50

: + 0.50 Tolerance mm

: 10.00 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : ← 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 0.50

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

Start of delivery blocking

: +- 0.10 Tolerance

Barrel no. : 5

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V
TESTING & SETTING RACK TRAVEL SENSOR POSITION
Engine speed min-1: 0
Setting point (P, R and H pump)
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05
Check tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05
Check : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25
Check tolerance mm : +/- 0.30
Stop position
Uact V: Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25 Check

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20

Engine speed min-1: 600

Difference

Amplitude to
Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm	:		750
Uact V	:		3.350
Prestroke solenoi	d		
Stroke mm	:		10.00
Del. quantity			
cm3/1000 strokes	:		332.0
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0
Spreed			
cm3/1000 strokes	:		5.0
Check tolerance			
cm3/1000s.	:		9.0

FUEL DELIVERY CHARACTERISTICS

			-	
	Rated speed rpm Jact V	:		750 1,450
		•		1.450
	Prestroke solenoid			
	Stroke mm	:		10.00
- 1	Del. quantity			
	cm3/1000 strokes	:		74.0
(cm3/1000 strokes	:	+-	4.0
(Check tolerance			
	cm3/1000s.	•	+-	8.0
	Spreed	•		0.0
	cm3/1000 strokes			4.0
	Check tolerance	•		4.0
1	cm3/1000s.	:		8.0
	Rated speed rpm	:	1	000
Į	Jact V	:		3.290
F	Prestroke solenoid			
9	Stroke mm :	:		8.00

Check

tolerance mm : +/- 0.35

Stroke mm Del. quantity cm3/1000 strokes cm3/1000 strokes Spreed cm3/1000 strokes Check tolerance	: 7.20 : 30.0 : + 3.0 : 8.0	
Stroke mm	: 7.20	
Volt Prestroke solenoi	: +- 0.080 d	
Uact V Tolerance Volt Check tolerance	: 1.500 : + 0.060	
TEST POINT L1	: 300	
cm3/1000 strokes cm3/1000 strokes Check tolerance cm3/1000s.	: 175.0 : + 4.0 : + 8.0	
Uact V Prestroke solenoi Stroke mm Del. quantity	: 6.20	
Check tolerance cm3/1000s. Rated speed rpm	: ← 9.0 : 500	
Stroke mm Del. quantity cm3/1000 strokes cm3/1000 strokes		
Rated speed rpm Uact V Prestroke solenoi	: 500 : 2.900 d : 9.20	
Uact V	: +- 4.0 : +- 8.0 : 500 : 2.900	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.08.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 796 202

Injection pump

Pump designation : PES6H120/720/3LS1005

EP type number : 0 412 726 202

Governor

Governer design. : RE33

Governer no. : 0 421 890 364

Cust. part No. : 51.111103-7477

Customer—spec. information

Customer : MAN : D 2866 LF 16 Motor

Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 073

3.0 Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

N19

x inside diameter : 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 7.65
Tolerance mm : + 0.05

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 0.50

Prestroke mm : 10.00 Tolerance mm : + 0.05 Tolerance mm

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : \div 0.50

: 6-2-4-1-5-Firing order

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

: +- 0.10 Tolerance

Barrel no. : 6

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 CRT mm 13.00 Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1,700 Uact V 6.15 CRT mm : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Setting point (M pump) 3,100 Uact V 12.50 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10tolerance mm Check value (M pump) Uact V 1,700 5.50 CRT ann : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. CRT mm 0.75 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position

Engine speed min-1: 60
Amplitude V: 1.4
Tolerance V: +/- 0.6
Check
tolerance V: +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

(C) INJECTION PUMP WITH POSITIONER

750

TEST POINT V1

Rated speed rpm

3.350 Uact V Prestroke solenoid 10.00 Stroke mm Del. quantity cm3/1000 strokes : 332.0 cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.9.0

FUEL DELIVERY CHARACTERISTICS

750 Rated speed rpm Uact V 1.450 Prestroke solenoid Stroke mm 10.00 Del. quantity cm3/1000 strokes : 74.0 cm3/1000 strokes : +-4.0 Check tolerance cm3/1000s.8.0 Spreed cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Rated speed rpm : 1000 Uact V : 3.290 Prestroke solenoid Stroke mm : 8.00

N20

Rated speed rpm Uact V	:	500 2.900	
Prestroke solenoid Stroke mm	: :	9.20	
Del. quantity cm3/1000 strokes cm3/1000 strokes	: +-	306.0 5.0	
Check tolerance cm3/1000s.	: +-	9.0	
Rated speed rpm Uact V	:	500 2.100	
Prestroke solenoid Stroke mm Del. quantity	:	6.20	
cm3/1000 strokes cm3/1000 strokes	: +-	175.0 4.0	
Check tolerance cm3/1000s.	: +-	8.0	
TEST POINT L1			
Rated speed rpm Uact V	:	300 1.500	
Tolerance Volt Check tolerance Volt		0.060	
voll Prestroke solenoid Stroke mm		7.20	
Del. quantity cm3/1000 strokes		30.0	
cm3/1000 strokes Spreed cm3/1000 strokes		3.0 8.0	
Check tolerance cm3/1000s.	:	12.0	
STARTING FUEL DELI	VERY		 -
Rated speed rpm Jact V	: :	100 2.450	
Prestroke solenoid Stroke mm Del guentity	! :	7.00	
Del. quantity cm3/1000 strokes cm3/1000 strokes	: : +-	182.0 10.0	
Check tolerance cm3/1000s.	: +-	14.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 01.12.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 796 203

Injection pump

Pump designation : PES6H120/720/3LS1006

EP type number : 0 412 726 203

Governor

Governer design. : RE33

6overner no. : 0 421 890 365

Cust. part No. : 51.111103-7479

Customer-spec. information : MAN Customer

Motor : D 2866 LUH 21

Power KW : 257.0

TEST BENCH REQUIREMENTS

Inlet line : 4(EHAB)

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 073

Inlet press. bar : 3.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 600 x Length mm :

REMARKS

Pump specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 10.00 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : **←** 0.50

: 6-2-4-1-5-Firing order

: 3

: 0-60-120-180-240 Phasing

: -300 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Barrel no. : 6

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1: 0	+ Amplitude V : 1.4 + Tolerance V : +/- 0.6
Setting point (P, R and H pump)	Check tolerance V : +/- 1.20
	+
Uact V : 3.100 CRT mm : 13.00	+ Engine speed min-1: 600 + Difference
Tolerance mm : +/- 0.05	+ Amplitude to
Check	Amplitude V : max.1.4
tolerance mm : +/- 0.10	+
	+
Check value	(C) THIS CITY OF HITTI DOCTTONED
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
	TEST POINT V1
Uact V : 1.700 CRT mm : 6.15	+
CRT mm : 6.15	Rated speed rpm : 750
Tolerance mm : +/- 0.25	+ Uact V : 3.350
Check	+ Prestroke solenoid
tolerance mm : +/- 0.30	+ Stroke mm : 10.00
	+ Del. quantity + cm3/1000 strokes : 332.0
Setting point	+ cm3/1000 strokes : +- 1.0
(M pump)	+ Check tolerance
(1) Equips	+ cm3/1000s. : + 4.0
Uact V : 3.100	Spreed
CRT mm : 12.50	+ cm3/1000 strokes : 5.0
Tolerance mm : +/- 0.05	+ Check tolerance
Check	+ cm3/1000s. : 9.0
tolerance mm : +/- 0.10	FUEL DELIVERY CHARACTERISTICS
Check value	T FUEL DELIVERY CHARACTERISTICS
(M pump)	Rated speed rpm : 750
	+ Uact V : 1.450
Uact V : 1.700	+ Prestroke solenoid
CRT mm : 5.50	+ Stroke mm : 10.00
Tolerance mm : +/- 0.25	+ Del. quantity
Check : +/- 0.30	+ cm3/1000 strokes : 74.0 + cm3/1000 strokes : + 4.0
toterance man . +/- 0.30	+ Check tolerance
Stop position	+ cm3/1000s. : +- 8.0
	+ Spreed
Uact V : Value with	+ cm3/1000 strokes : 4.0
deenergised adjusting magnet	+ Check tolerance
and control rod in	+ cm3/1000s. : 8.0
stcp position. CRT mm : 0.75	Rated speed rpm : 1000
Tolerance mm : +/- 0.25	+ Uact V : 3.290
Check	+ Prestroke solenoid
tolerance mm : +/- 0.35	+ Stroke mm : 8.00
	+ Del. quantity
	+ cm3/1000 strokes : 317.0
ENGINE-SPEED SENSOR	+ cm3/1000 strokes : $+$ 4.0
(All P and R pumps not	+ Check tolerance + cm3/1000s. : + 8.0
H and M pumps)	T CIID/10003 0.0
Test with control rod	Rated speed rpm : 500
in stop position	+ Uact V : 2.900
, ,	+ Prestroke solenoid
Engine speed min-1: 60	+ Stroke mm : 9.20

cm3/1000 strokes cm3/1000 strokes	: 307.0 : +- 5.0
Check tolerance cm3/1000s.	: +- 9.0
Rated speed rpm Jact V	: 500 : 2.100
Prestroke solenoi	
Stroke mm	: 6.20
Del. quantity cm3/1000 strokes	: 175.0
cm3/1000 strokes	: + 4.0
Check tolerance	
cm3/1000s.	: +- 8.0
TEST POINT L1	
Rated speed rpm	: 300
Jact V	: 1.500
Tolerance Volt	: +- 0.050
Check tolerance	: +- 0.080
lolt Prestroke solenoi:	
Stroke mm	· 7.20
el. quantity	
m3/1000 strokes	: 36.0
m3/1000 strokes	: - 3.0
Spreed	
m3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
STARTING FUEL DEL	IVERY
ated speed rpm	: 100
lact V	: 2.450
restroke solenoi	7 00
itroke mm	: 7.00
el. quantity m3/1000 strokes	: 190.0
m3/1000 strokes	
heck tolerance	
m3/1000s.	: ← 14.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.12.96 Test oil : ISO 4113

Combination No. : 0 403 246 048

Injection pump

Pump designation : PES6MW100/720RS1522 EP type number : 0 413 206 023

Governor

Governer design. : RQV300...1300MW148

: -5

Governer no. : 0 420 083 326

Cust. part No. : 0250744902

Customer—spec. information Customer : M8-NFZ Motor : OM366LA Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

N25

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 118.0

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

cm3/1000 strokes : 4.5

Check tolerance	†
cm3/1000s. : 7.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	+
	+ Rated speed rpm : 1500
Rack travel in mm : 4.20	+ Rack travel in mm : 10.00
Tolerance mm : + 0.10	+ Tolerance mm : + 2.70
Det. quantity	+
cm3/1000 strokes : 12.0	FINE LOAD DELTHERY AT FUEL LOAD GTOD
cm3/1989 strokes : + 2.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/10:00s. : +- 4.5	Rated speed rpm : 1300
Spreed	+ Aneroid pressure
cm3/1000 strokes : 2.0	+ hPa : 1200
Check tolerance cm3/1000s. : 4.0	+ Del. quantity + cm3/1000 strokes : 118.0
	+ cm3/1000 strokes : + 1.0
	- Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000s. : +- 3.0
WITH GOVERNOR	+ Spreed + cm3/1000 strokes : 4.5
	+ Check tolerance
GUIDE SLEEVE TRAVEL	+ cm3/1000s. : 7.0
Rated speed rpm : 300	<u>†</u>
guide sleeve	
travel mm : 0.92	+ CONTROL LEVER
Tolerance mm : +- 0.25	†
Rated speed rpm : 1355	+ control lever + position degree : 120.0
guide sleeve	tolerance degree : + 4.0
travel mm : 9.32	+
Tolerance mm : +- 0.25	RATED SPEED
Rated speed rpm : 1078	rack travel mm : 12.30
guide sleeve	Rated speed rpm : 1345
travel mm : 7.06 Tolerance mm : + 0.25	† Tolerance 1/min : + 5
Tolerance mm : + 0.25	rack travel mm : 4.00
Rated speed rpm : 514	+ Rated speed rpm : 1485
guide sleeve	† Tolerance 1/min : +- 15
travel mm : 2.14 Tolerance mm : + 0.25	rack travel mm : 0.50
Total ance man	Tolerance mm : +- 0.50
Rated speed rpm : 564	Rated speed rpm : 1600
guide sleeve	†
travel mm : 2.60 Tolerance mm : +- 0.25	İ
Total and the man	LOW IDLE
Rated speed rpm : 740	†
guide sleeve travel mm : 3.93	t + control lever
Tolerance mm : +- 0.25	position degree : 74.0
· · · · · · · · · · · · · · · · · · ·	tolerance degree : + 4.0
Rated speed rpm : 1720	† Tasting.
guide sleeve travel mm : 13.50	† Testing:
Toleranse mm : + 0.50	Rated speed rpm : 300
	+ rack travel mm : 4.20

Tolerance mm	: + 0.10	+ Aneroid pressure + hPa : 1200
Rated speed rpm	: 200	Rated speed rpm : 750 Del. quantity
CRT mm min.	: > 5.00	cm3/1000 strokes : 114.0 cm3/1000 strokes : +- 1.5
TORQUE CONTROL		Check tolerance cm3/1000s. : +- 4.0 Spreed
Rated speed rpm rack travel mm	: 13.30	cm3/1000 strokes : 6.0 Check tolerance
Tolerance mm		cm3/1000s. : 9.0
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.30 : + 0.10	Aneroid pressure hPa : 1200 Rated speed rpm : 1300 Del. quantity cm3/1000 strokes : 105.0
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : +- 3.0
SETTING		+ Aneroid pressure + hPa : -
Rated speed rpm Pressure hPa	: 500 : 1200	hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 48.0
rack travel mm Tolerance mm	: + 0.10	+ cm3/1000 strokes : +- 1.0 + Check tolerance
MEASUREMENT		cm3/1000s. : +- 3.0
Pressure hPa Rated speed rpm Tolerance mm	: - : 500 : + 0.05	BREAKAWAY
Rated speed rpm	: 500	Rack travel in mm : 12.30 Rated speed rpm : 1345
Pressure hPa rack travel mm Tolerance mm	: 4.30	Tolerance 1/min : + 5
Pressure hPa rack travel mm	: 300 : 1.20	STARTING FUEL DELIVERY
Tolerance mm	: ← 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 150.0
START CUT-OUT		+ cm3/1000 strokes : +- 5.0 + Check tolerance
Rated speed rpm Rated speed rpm		cm3/1000s. : +- 8.0
Check speed 1/min Check	: > 80	LOW IDLE
speed 1/min	: < 220	Rated speed rpm : 300
FUEL DELIVERY CHA	ARACTERISTICS	

Check tolerance

cm3/1000s. : + 4.5

Spreed cm3/1000 strokes : 2.0

Check tolerance cm3/1000s.

: 4.0